

Health Service



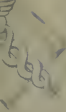
Health, Education



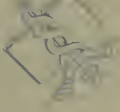
Health Service



Health, Education,



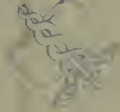
Bethesda, Md.



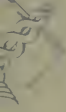
US Department of



Bethesda, Md.



US Department of



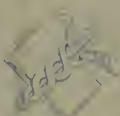
U.S. Department of



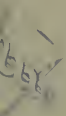
Bethesda, Md.



U.S. Department of



Bethesda, Md.



Health, Education,



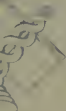
Health Service



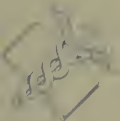
Health, Education,



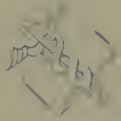
Health Service



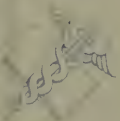
and Welfare, Public



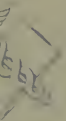
and Welfare, Public



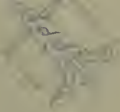
and Welfare, Public



and Welfare, Public



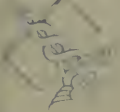
Health Service



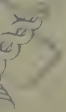
Health, Education,



Health Service



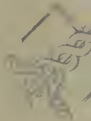
Health, Education,





Health Service

NATIONAL



Bethesda, Md

MEDICINE



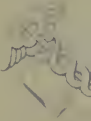
U.S. Department of

NATIONAL L



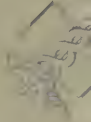
Health, Education,

MEDICINE



and Welfare, Public

NATIONAL L



Health Service

MEDICINE



Beth



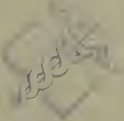
Health, Educ

NATIONAL LIBRARY OF MEDICINE



U.S. Department of

NATIONAL LIBRARY OF MEDICINE



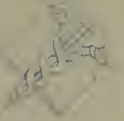
Bethesda, Md.

NATIONAL LIBRARY OF MEDICINE



Health Service

NATIONAL LIBRARY OF MEDICINE



and Welfare, Public

NATIONAL LIBRARY OF MEDICINE

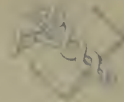


Health, Education,

NATIONAL LIBRARY OF MEDICINE



ment of



Health Service

NATIONAL LIBRARY OF MEDICINE



Bethesda, Md

NATIONAL LIBRARY OF MEDICINE



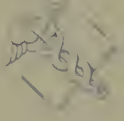
U.S. Department of

NATIONAL LIBRARY OF MEDICINE



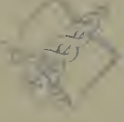
Health, Education,

NATIONAL LIBRARY OF MEDICINE



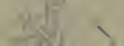
and Welfare, Public

NATIONAL LIBRARY OF MEDICINE



Health Service

NATIONAL LIBRARY OF MEDICINE



Bethesda



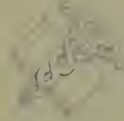
Health, Education

RY OF MEDICINE



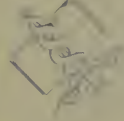
U.S. Department of

NATIONAL LIBRARY OF MEDICINE



Bethesda, Md.

RY OF MEDICINE



Health Service

NATIONAL LIBRARY OF MEDICINE



and Welfare, Public

RY OF MEDICINE



Health, Education,

NATIONAL LIBRARY OF MEDICINE




ment of

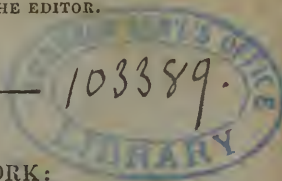
Chas Green
1837.

A

POPULAR TREATISE
ON HEALTH,
AND THE MEANS OF PRESERVING IT;
OR THE
DYSPEPTIC'S POCKET COMPANION.
FROM THE LAST LONDON EDITION.

—  —
BY THE LATE DR. WILLIAM TURNBULL.
—

WITH EXTRACTS FROM OTHER MEDICAL WRITERS,
AND NOTES BY THE EDITOR.

—  —
NEW-YORK:

J. K. PORTER, 114 FULTON STREET

—
1831.

W Z
290
T943P
1831

[Entered, according to the Act of Congress, August 6th, in
the year 1831, by J. K. Porter, in the Office of the Clerk
of the Southern District of New-York.]



P R E F A C E.

THIS Treatise was published after the death of the author, by his son, Dr. William Turnbull, to which he prefixed the following introductory remarks :

“The present work is given to the public as the relics of an eminent physician, whose character in the metropolis was well known, and who was distinguished by a successful and scientific practice. He was particularly celebrated in the popular periodical publications of that day, by bringing forward, in small tracts, or occasional letters, whatever he thought could be useful to the public ; and in this way he considered that he discharged a duty, without regard to professional emolument or mystery ; which is, of all others, the most pleasing, that of benefiting his fellow-creatures, by gratuitous and disinter-

ested advice. In doing this, it may be said, he followed the example of the celebrated Dr. Fothergill, who, actuated by similar motives, was ever attentive to catch the predominant attack of disease at the time, and publicly to disseminate his opinion upon it, for the purpose of checking its progress.

“The situation of Dr. Turnbull, gave him abundant opportunities of displaying his philanthropy, both by his employment in the public charities to which he belonged, and also by his ready and often unsolicited attendance on the poor in his own neighbourhood, to whom he acted the part of a friend and a father.

“From the pen, therefore, of such a character nothing is to be expected but what is worthy of notice, and what will be found to benefit mankind by the instruction it conveys.

“The papers which he left seem to be part of a practical system of medicine he had planned and nearly completed for the public eye. The first part, which forms the contents of this volume, consists of several subjects, which, though they have been treated

of by others, yet it is not in that concise manner that distinguishes the remarks upon them from Dr. Turnbull's pen."

Notwithstanding the deep stake that every person has in the preservation of his health, the majority of mankind pay little attention to it until, from want of precaution, they are deprived of this inestimable boon. And when this occurs, they generally apply to the nearest doctor, or person bearing that title, to ascertain what ails them, as they would to a fortune-teller to recover lost property: not being aware that *qui dit docteur ne dit pas un homme docte, mais un homme qui devrait être docte*. That is, that the appellation of doctor does not always indicate a learned man, but one that ought to be so. The celebrated Dr. Moore, of England, said that between a good physician and none at all, the difference, in most cases, was scarcely discernible by the patient, but that between a good physician and a bad one the difference was immense.

The want of due discrimination in this respect, frequently proves fatal to the patient,

who *dies of the doctor*, through the instrumentality of phlebotomy and drastic medicines.

Although the medical art, deservedly, stands high in the list of learned professions, so called, as being eminently conducive to the well-being of man, yet there are those who pretend to it, that incur an awful responsibility involved in its mal-administration.

Many works have been written on the means of preserving health, containing more or less merit, but, for the most part, are too diffuse for the general reader to profit much by their perusal; and, moreover, are often interlarded with medical prescriptions, which can never be relied upon for all constitutions, under all circumstances; and therefore their use, in the hands of inexperience, may produce deleterious consequences. The safest way is, to take proper means for the preservation of health, and if from unavoidable causes, or otherwise, the system becomes deranged, in a considerable degree, then to employ a skilful physician to repair

it. It is dangerous for those unskilled in their use, to meddle much with mineral and vegetable poisons. They are edged tools, and if not adroitly handled may cut too deep.

A work on health, by Dr. Kitchiner, published some time ago in England, and reprinted in Philadelphia, in 1823, contains much good practical advice; but is very defective in classification and arrangement, and is also objectionable on the ground before alluded to. We have, however, availed ourselves of some excellent remarks in this publication.

On the whole, the work before us, for popular use, is, in our opinion, far superior to any thing of the kind that has fallen under our view. It is systematic and concise, and, at the same time, contains whatever is necessary on the subject. Owing to the style and regular order in which the different topics are treated, its perusal is far from being tedious, a consideration of no little weight with those who prefer novel reading to the study of authors treating *merely* on the preservation of health, which, in comparison

with works of amusement, are held in little consideration.

The publisher of this edition, after having tried the various medical and manual operative schemes for the cure of dyspepsia, has become convinced that the most sure remedy is a rigid adherence to strict rules of regimen and exercise ; and that if this course will not, in all cases, cure, it will undoubtedly prevent the approach of this troublesome and sometimes deadly enemy.

His practice is to avoid the use of ardent spirits, fermented liquors, tea, coffee, and tobacco in any form. His diet, morning and evening, consists chiefly of stale bread and milk, occasionally adding a boiled egg, or ripe fruit ; excluding, however, pears, which he finds injurious. He dines on a small quantity of beef-steak, with no other condiment than salt ; and no vegetables but potatoes. Cabbage particularly is rejected. From his experience in regard to lobsters, he thinks that no dyspeptic stomach can digest them. He takes much exercise in the open air, and when this cannot conveniently be

obtained, he makes use of dumb bells, which distends the chest and gives a brisk circulation to the whole system. A warm bath about once a week he has found very salutary. He avoids medicine as much as possible, nor does he find it necessary, except when he imprudently departs from the course above specified. In this case, a bottle of Congress, Saratoga water, taken in the morning before breakfast, answers the desired purpose. Any gentle aperient might, perhaps, prove equally effective. This water, however, is injurious if taken at any other time of day than here directed.

The publisher has suffered under this complaint for about ten years, and, by adhering to the above discipline for a little over three months, finds himself perfectly comfortable, except when deviating from the rules prescribed.

When the human system has been materially deranged for many years, it cannot reasonably be expected that it can be immediately restored, by any means whatever. Patience and perseverance are required. But

it is confidently believed, that any dyspeptic, by following the course here indicated for five or six months, will be so far recovered as to be enabled to return by degrees to his usual mode of living. He may, however, find it necessary to abstain from tobacco altogether, and to make a very sparing use of alcohol in any form.

CONTENTS.

INTRODUCTION. General Remarks on the pre-	
servation of health, - - - - -	1
Of the different constitutions and temperaments	
of mankind, - - - - -	6—71
Of the Non-naturals, - - - - -	11
Of Air, - - - - -	11
Of Seasons, - - - - -	16
Of Aliment, - - - - -	18—75
Animal Food - - - - -	25—77
Vegetable Diet, - - - - -	31
Of Drink, - - - - -	38
Water, - - - - -	40
Wine - - - - -	41
Ardent Spirits, - - - - -	43
Tea, Coffee, Chocolate, - - - - -	45
Spices, or Condiment, - - - - -	47
Of Exercise, - - - - -	50
Of Sleep and Watching, - - - - -	55
Of Secretions and Excretions, - - - - -	58
Of Climate, - - - - -	74
Fruits, - - - - -	79
Bread, - - - - -	81

APPENDIX.

Peptic Precepts, - - - - -	83
Suspended Animation by Drowning, - - - - -	86
Chronic Rheumatism, - - - - -	88
Cutaneous Eruptions, - - - - -	89
Alcohol in different Liquors, - - - - -	90
Nutritive matter in vegetable substances, - - - - -	92

INTRODUCTION.

GENERAL REMARKS ON THE PRESERVATION OF HEALTH.

THAT health is the first of sublunary blessings, is a fact universally admitted ; but this fact, however impressive, seldom produces that conviction on the minds of individuals, which shows an influence in regulating their mode of life.

To preserve health, it is necessary to live under the habitual impression of our constant propensity to disease, and to conduct ourselves with a due attention to this important truth. Few people can appreciate properly the value of health till they experience the attack of disease ; and it is only from the loss of this first of blessings, we begin to put a proper estimation on the possession of it. But though actual disease does not take place, there are, with every individual, certain slighter deviations from the healthy state, which, if neglected, undermine the constitution, and bring on irreparable mischief before we are sensible of its approach. It is these gentle warnings it behoves us to attend to, which, like enemies in ambush, insidiously push on, till they terminate in the irreparable loss of health, and in the breaking up of the habit. Hence, it is much easier to preserve health, than to recover it when lost.

The principles, indeed, of the healing art, or that which regards the preservation of this blessing, are as clear and certain as its maxims are easy to put in practice. The principles, again, of medicine, or what respects the cure of actual disease, are often as obscure and ambiguous, as its rules are painful and disagreeable. One simple maxim is always to be kept in view, that health is preserved by avoiding every thing that is hurtful, and by adopting that which is salutary. But, however simple this view is, no subject is of so much importance as that which regards its preservation: and it cannot be too often inculcated, that even a temporary loss of it often lays the foundation for disagreeable consequences during the remainder of life.

Health, if defined, we may consider as consisting in the corresponding harmony of each part of the body with another, and this harmony extended equally to the solids and the fluids, so that a proper balance or preponderance continues to be supported between them. This forms the perfect state of the animal economy; and, during this state, the functions of both body and mind are performed with pleasure, satisfaction, and alacrity. When this is altered, disease ensues; and then what avail all the other advantages of life?—Can enjoyment be experienced in the act of suffering? or what consideration can be made of fortune, honour, and dignity, by him who is sensible only to his existence by the torture he feels?

But that an attention to health may be, in the opposite extreme, carried too far, will be also readily admitted; and perhaps forms an equal fault. Hence, to live *medically*, as has been alleged, is to live miser-

ably, and to be the constant slave of rule. Yet, even as an apology for this fault, it may be observed, that the enjoyment of a few years in the unrestrained manner in which the libertine wishes to enjoy them, is purchased with an age of pain and infirmity for the remainder of life.

The true plan, therefore, consists, as wisely established by the Author of Nature, in regulating and keeping under control our various appetites and passions; and, by doing this, united with a proper knowledge of his constitution, every man will taste that tranquillity of mind and soundness of body, which is the source of a refined pleasure that a life of intemperance can never experience.

To the preservation of health, the *golden mean* equally applies, as to other important pursuits in life; for an attention to health may be carried so far, as already hinted, that it degenerates into weakness. Thus, however proper the system of the noble Venetian, Cornaro, might be in his particular case, and with the infirm and worn-out constitution which gave rise to his precepts, it is by no means a plan to be generally adopted, or to which mankind in general are disposed to submit. The human frame, we know from daily observation, is adapted for great variety, and can endure equally the scorching heats of the torrid zone, and the chilly freezing colds of the polar circles.

Man is more injured by himself than by any external agent, or circumstance of situation in which he is placed; and the principal thing required is to guard him against the evils which attack equally the energies of his mind and body,—from the refinements of modern

life. These are the snares he is to beware of, the syrens, whose poison saps the foundation of his frame; and, avoiding these, by temperance, moderation, and exercise, let him so regulate his mode of life, as to be always able to enjoy, in the happy language of the poet,

“*The feast of reason, and the flow of soul.*”

Before entering into any minute details of what is proper for the preservation of health, a preliminary part is, to ascertain and be well acquainted with the signs of this state. Thus, we shall be best able to fix our proper mode of life, when we can judge of its effects, or to change it, if these effects induce a disposition to disease, instead of preserving the marks of health.

In order to enjoy a perfect state of health, it is first necessary that the principal organs of the body be completely formed; and these are confined to the head, chest, and belly. This makes what is termed a *sound constitution*—that is to say, the bones should be thick and strong, the teeth good; there should prevail a greater proportion of flesh than of fat; the head should be of a proper size; the chest capacious and open; the belly a little protuberant; the muscles thick; the vessels large; the nerves solid, compact, and extensively diffused; the tendons firm, and the fibres in general elastic; the appetite neither too great nor too small, and the secretions and excretions performed in due proportion to each other. To these signs are to be joined the absence of all pain, the sweet uninterrupted enjoyment of sleep for the usual stated period, and the

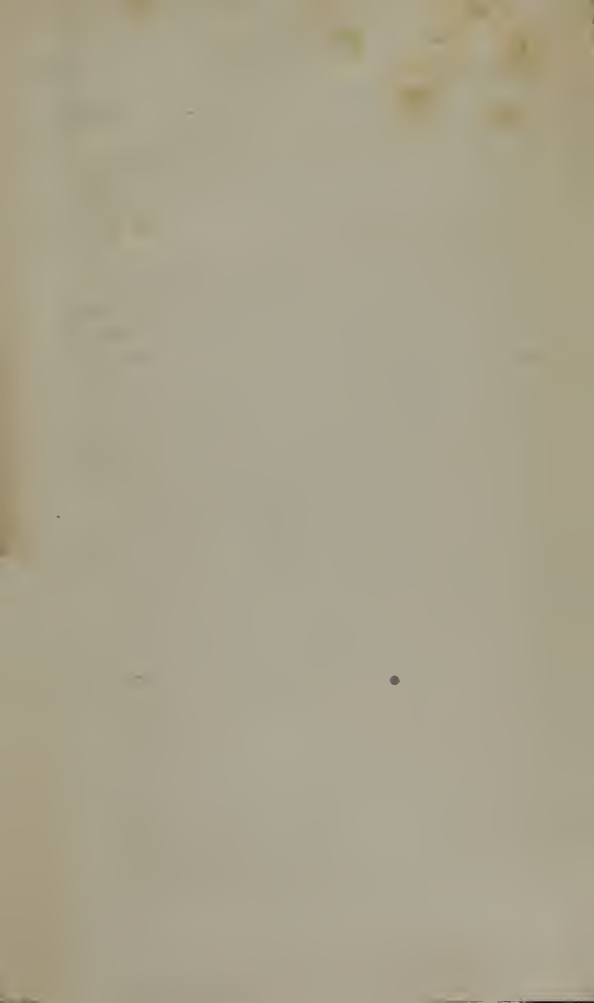
capability of supporting moderate exercise with ease, and without inconvenience.

In enumerating these various signs of health, it is not intended here to alarm those in whom they do not all observe the uniformity described. There is an infinite number of shades and deviations from perfect health to an actual assailment of disease, in which every one experiences the enjoyment of existence suited to his particular constitution or temperament ; but, by this picture now drawn, every one will be enabled to judge of the slightest derangements in their habit of body, by which they may come to be remedied before they arise to the height of actual malady.

Indeed, it cannot be too often impressed, that it is easier to prevent than to cure ; and the words of the poet contain, on this point, an important truth :

Principii obsta : sero medicina paratur.
Ovid.

The attack resist : too late the cure may come.



ON HEALTH,

AND

ON THE MEANS OF PRESERVING IT, &c.

CHAPTER I.

OF THE DIFFERENT CONSTITUTIONS AND
TEMPERAMENTS OF MANKIND.

THE constitutions of mankind we find considerably varied ; and speaking in general terms, no two persons are formed so exactly alike, that the same preepts inculcated will equally apply, or the same means of cure be alike successful under disease. This mode of proceeding, however, is commonly pursued by empiries : but, the regular and cautious observer of nature, before laying down his regulations for health in any particular case, examines with care the distinctions of habit in which each individual coming under his review differs from another ; and on those differences or minute distinctions, he founds his scientific and successful plan of treatment.

Arrangements of Temperaments.

These distinctions, though numerous, have been arranged by physicians under certain heads or leading

points ; and, by this arrangement, the various constitutions or temperaments of mankind have been classed under four denominations, known by the names of the *sanguine*, the *choleric*, the *phlegmatic*, and the *melancholic*. In each of these denominations we are to observe, that a certain difference or varied proportion exists between the solids and fluids, which gives a peculiar change or modification to the movements of the habit or system. The particulars of these modifications we shall now examine, in the order in which they are placed.

1. *Sanguine Temperament.*

The first, or sanguine temperament, is distinguished by the excess of fluid compared with the proportion of solid parts. Thus, the vessels being replete with blood, it possesses a strong disposition to inflammation from the slightest cause, and it is seldom able to endure much heat. It is marked also by much sensibility and irritability. It is variable in all its motions: fickle and unsteady in every thing it undertakes, prone to suspicion, affable and courteous, but equally forgetful and unkind. It may be termed properly the *temperament of pleasure*. It is fond of every thing voluptuous, and, hating industry and application, it makes little progress for the most part in any art or science, unless where it is joined with a mixture of the next constitution, or the choleric.

2. *Choleric Temperament.*

In the next, or choleric temperament, there prevails yellow tinge of the skin. The eye is dark and of a

penetrating cast. Every action here is denoted by rapidity. This constitution possesses an excess of bile, and the body is generally distinguished by a relaxed state. It is fitted for the most laborious employments. In diet, a fondness for animal food is a leading feature of this constitution.

3. *Phlegmatic Temperament.*

The next temperament in the order of arrangement, is the phlegmatic one, distinguished by the softness and whiteness of the skin, and a large prominent eye; by a weakness of circulation, as denoted by the pulse, and by a general slowness and languor in all its actions. Indifference and apathy are also its leading characteristics. Prone to obey, it seems born to submit to every oppression; and so much in every respect does this tameness prevail, that even its health seems little injured by exposure to weather.

4. *Melancholic Temperament.*

The last temperament is the melancholic. Here we observe a gloomy countenance, a dry and meagre fibre, a hard or tough skin, with eyes small and hollow. The action of the system is weak and languid, and there prevails in the blood an excess of black bile, which renders the motions of the intestines particularly slow. The mind, however, is quick in its perceptions, and is much given to contemplation and deep research. A slowness of decision marks the execution of whatever it undertakes; and to the evils of life it yields with patience

and submission, though it discovers at the same time a vindictiveness of temper when once provoked.

Such are the differences to be remarked in the constitutions of mankind, and their differences have been referred by authors to various causes.

The most important to be noticed, is the *different state of the nervous system* in different individuals. Thus, when the nerves are large and strong, and the brain bears a similar proportion, that constitution will possess much sensibility, and all the qualities of mind connected with it; which is the actual state of the nervous system both in the sanguine and choleric temperaments. Where, on the contrary, the nerves are small, and the brain contracted in the same degree, a state of mind will exist correspondent to this formation; there the senses will be dull, and a languor prevail, and even a degree of melancholy in every action. Such a state of the nervous system is found to distinguish both the phlegmatic and melancholic temperaments. Thus, while the sanguine and choleric habits readily receive impressions, and as readily transmit them with rapidity to all parts of the body, the two latter constitutions are with difficulty acted upon, and the effect of the impressions they receive is but slowly conveyed to every part. The consideration of these circumstances requires particular attention in the practice of physic; for too much caution cannot be shown in the exhibition of powerful medicines to the two former constitutions. The worst consequences have accordingly been known to follow their administration here in too large a quantity. It is in the two latter habits this caution would be misplaced: the dull arid state of the nervous system ren-

ders it here equally difficult to affect them by the most powerful medicines, as it is easy in the former; and the most liberal doses may be, therefore, ventured upon without much danger.

CHAPTER II.

OF THE NON-NATURALS.*

THIS is a term applied by physicians to express a number of things essential to the existence of man, without entering into his composition, or constituting a part, as it were, of his nature. They are properly comprehended under *air, aliment, exercise, rest, watching, and sleep, the secretions and excretions, and the passions and affections of the mind*. On each of these it will be proper to descant so far as they influence the constitution of man in producing a state of health and disease.

1. *Of Air.*

The first and most important of the whole is air; for while life can be supported for some time without aliment, existence terminates rapidly when we are deprived, but for a few moments, of air.

From our first entrance into the world, its presence

* This term has been long reprobated, although used by all professional men. It conveys no idea of what should be understood by it, and is a relic of the jargon of the Peripatetic school, or the Galenic philosophy.

becomes an essential requisite to the continuance of life. The action of respiration begins, the lungs are expanded, and continue their functions till death.

General Composition of Air.

This fluid, which we inhale, formerly considered as simple and uncompounded, modern chemistry has been able to analyse, and to investigate its principles. This analysis shows that air, though colourless, transparent, compressible, and elastic, as we find it surrounding our globe, under the name of atmosphere, is composed of three different substances: of *oxygen*, *azote*, and *carbonic acid*, in different proportions; the first being twenty-seven parts to the hundred, the second seventy-two or seventy-three, and the last only one part. The first of these substances, or oxygen, is that best suited for the support of life; and where it is procured pure, or by itself, by an artificial process, an animal enclosed in it will support its existence seven or eight times longer than when enclosed with the same proportion of common air. Its use is therefore apparent, and it is by the proportion of this substance in common air that we are enabled to breathe. Hence, atmospheric air, the more it is deprived of this part of its composition, the less is it calculated to sustain animal life.

The second substance, or azote, termed in common language *foul air*, is that part of the atmosphere which is produced by the various processes of vegetable and animal bodies going on near the surface of the earth by combustion, respiration, and putrefaction. Hence it is a substance which cannot be breathed without affecting

the springs of life, and paralyzing the sinews of action. When accumulated in undue proportion, it proves quickly fatal to every animal exposed to its influence.

The third substance, carbonic acid, more commonly termed *fixed air*, is equally pernicious to animals as the former; but, as its quantity is so small, bearing a proportion of only one part in the hundred, we are less exposed to its deleterious effects, and therefore, on that account, it claims here less consideration.

General Effects of Air.

From this view of the composition of air, we are enabled to judge what part of it is eminently necessary to the preservation of life; and after our knowledge of this constitution of the atmosphere, we are led to examine, next, the influence that different states of it have upon us in respect to health. Thus, by a warm air the solids of the body are relaxed, and a stronger circulation of the fluids produced. The nervous system is particularly oppressed by it, and nervous habits suffer much distress and inconvenience in hot weather. Cold, on the contrary, imparts to the solids an unusual firmness and compactness. The muscles become more elastic. The digestion and assimilation of the food are quickened, and proceed more rapidly. But, with these good effects produced on the body by the influence of cold, a proneness to disease is apt at the same time to arise, and a strong tendency to inflammation is one immediate consequence of the increased vigour and tone thus communicated. Hence, all those complaints which are connected with a powerful excitement of the

system readily appear, and winter is the scene of their attack. Damp or moist air produces an equal relaxation and debility as warm air; but, it is still more hurtful, by giving a tendency to obstructions, and by checking the discharge from the skin. It has also a powerful influence on the mind, in producing depression, torpor, and *ennui*. Dampness, though increased in its effects by cold, is still more hurtful when aided by heat, especially where the degree of heat is very great. It is from this source proceeds the mortality of the West India Islands, where heat and moisture in conjunction form the predominant cause of disease. A dry cool air is the most conducive to health. It produces a serenity and activity both of body and mind. If the degree of coolness, however, be too great, it disposes, as already observed, to inflammation; and if it be too warm and dry, it is apt, in the other extreme, to enervate and debilitate the system. Great and sudden vicissitudes or changes of atmosphere are highly injurious both to the healthy and invalid. The human system best accords with gradual and progressive alterations, and all sudden changes are prone to induce disease. Thus, exposure to a cold coming after a warm day, is sure to produce symptoms of disease in the invalid and infirm, and should be carefully avoided, even by those in more vigorous health.

Modifications of the Air.

From the composition and general effects of air, we proceed next to examine some of its modifications.

Winds may be considered as strong concussions or motions of the air, and when irregular, arise from dif-

ferent causes ; as the situation of the quarter from which they blow, the position of a mountain, a forest, and other collateral circumstances.

Of the different winds, the north wind is esteemed the most healthy. By it the atmosphere is freed of noxious exhalations, and the air rendered dry and serene. Hence, it imparts to the body colour, vigour, and elasticity ; though from its degree of cold it is apt to be chilling for the invalid, and to those subject to pulmonic affections, or diseases of the chest, and other species of inflammation.

In opposition to the north wind, comes the south, which, on the contrary, weakens and relaxes, being loaded with moisture, which tend to give rise to colds and catarrhal diseases.

The west wind, of the whole, conveys the most agreeable sensations, though it is less bracing than the north or north-east.

The east wind in Britain produces feelings more unpleasant than any other, and that feeling does not arise merely from its degree of cold. To such a height does it often take place, that even the most cheerful disposition is rendered by a long continuance in it, peevish and morose. It is also well known that persons having once experienced the attack of intermittent fever or ague, from their unpleasant feelings, can prognosticate at all times its approach.

To conclude our observations on winds, as they regard health, it may be remarked, that a west wind, or rather north-west, is both the most salutary and the most agreeable ; and after it, they may be arranged in the following order—viz. first, an east, then a north-

east, and last of all in the scale, a south and a south-east. But, at the same time, when stating these general effects, it is to be observed, that local circumstances essentially vary these several qualities of the different winds. Thus, if they blow over a continent, or the ocean, or over high mountains, or icy regions, they will be rendered colder and more humid than if they take their direction from another quarter. In every situation, however, the morning wind is to be considered more bracing than that of the evening, which brings with it always some portion of dampness and moisture.

Seasons.

Of the four seasons, spring is indisputably the most healthy, as well as the most beautiful of the year. It is then that the vegetable kingdom is renewed. On this account there is collected a greater proportion of oxygen or vital air, and of course the atmosphere is rendered purer than at any other time of the year. It is also the most temperate, being neither too cold nor insupportably hot. It is the season whose charms are oftenest painted by the poet, and the perpetual continuance of which is considered as constituting a part of the supposed happiness of Elysium.

Summer is neither the most agreeable nor the most healthy of the seasons. Its too great heat, by enervating, deprives us, as it were, of a part of our existence. The beginning of this season has been remarked as most salutary to children or young persons; but, as it advances, in consequence of the excessive bodily discharges it occasions, it gives a tendency to diseases of

the putrid kind, and the most fatal epidemics are found to make their appearance at this period.

Autumn, the next season, is still more unhealthy than summer ; but, the beginning of this season and the latter end of summer, are allowed to agree well with the infirm and aged. Besides, from its degree of heat, the autumnal season is rendered unhealthy, and has its atmosphere vitiated by the corrupted and putrified particles of vegetation which then every where cover the soil ; and, unless this is counteracted, as sometimes happens, by frequent winds and some degree of cold,—fever, dysenteries, and diarrhœas of the worst nature, occur at this period of the year.

Winter is considered as equally healthy with the spring, when it is not too intense, and when the changes from frost to thaw do not happen too suddenly. It is in this season that inflammatory affections mostly prevail : every precaution, therefore, should be taken to avoid any unnecessary exposure of the body, either by neglect of warmth of dress, or by long continuance in an exposed situation.

Domestic Situation for Health.

Such are the leading observations that occur in the various constitutions of air, and on the circumstances of seasons, as connected with the atmosphere : it now remains to point out, as a practical inference from the whole, the particular situation which every individual ought to prefer for his residence, where a choice is left to him, in any climate to which the chance of his fate may rivet him. Such a situation ought to be in an open dry

country, on a healthy soil, and rather a rising ground. Neither should it be exposed to the extremes of winter cold nor of summer heat, but so placed that the latter may be moderated by a free pure air, and the solar rays admitted, so as to temper the rigour of the former. The apartments of this dwelling should be formed of a proper size and height, to admit freely, at all times, a circulation of air. To enjoy such a residence with comfort, the apartments having a southern exposure should be inhabited in winter; and in summer, on the contrary, those situated to the north and east; and through the day no person should live in the room set apart for sleep; but such apartments should be regularly opened, and the bed and bed-clothes turned over, that the exhalations from the body imbibed during the night, may be dissipated before the return to repose. The use of *fire* in sleeping apartments, is also to be condemned; and in damp weather if a fire is found necessary, it should always be removed before the hour of retiring to rest. From these few leading rules every individual will be enabled to know, in the choice of his domestic residence, what he ought to avoid, and what he ought to prefer.

2. *Of Aliment.*

The first object in all aliment is, the degree of its nourishing quality; and as animal food furnishes this in the greatest proportion, it is more fitted than the vegetable for the support of man.* Animal food admits

* “Animal food being composed of the most nutritious parts of the food on which the animal lived, and having been already di-

also of a greater variety than any other; but in proportion to this variety, it is apt to induce noxious effects. Vegetable food, tho' it contains less nourishment than the former, makes a proper mixture with it to counteract these hurtful consequences. The particular effects of this difference of aliment on the human body, we have an opportunity of contemplating in the habits of certain votaries who exclusively use each. Thus, those tribes, as the Tartars, who live solely on animal food, possess a degree of ferocity of mind, and fierceness of character, which form the leading feature of all carnivorous animals. Besides producing this state of mind, animal food also disposes the fluids strongly to putrefaction. Even a disagreeable smell is emitted from the body of those who solely use it, and all the secretions partake of the same effluvia.

On the other hand, an entire diet of vegetable matter, gives to the mind a gentleness, softness, and mildness of feeling, the reverse of the former character, as appears in the Gentoo: and this habit of body is less subject to diseases of a putrid nature. A mixture of diet is, therefore, best suited to the human constitution: though the proportion of this mixture cannot be very minutely ascertained, yet two-thirds of vegetables to one-third of animal food will form the best and most salutary regulation of diet.

The importance of attention to diet cannot be too

gested by the proper organs of an animal—requires only solution and mixture—whereas vegetable food must be converted into a substance of an animal nature by the proper action of our own viscera, and consequently requires more labour of the stomach, and other digestive organs.”—*Burton on the Non-Naturals.*

strongly inculcated : and all the errors committed, in regard to its quantity or quality, must be productive of very serious evils to the human frame.

With a small quantity of aliment the operation of digestion will always be most active, and the proper changes of the food in its conversion into aliment will be also most fully completed. On the other hand, where an excess of quantity is introduced into the stomach, the organ becomes over-loaded, the gastric juice is not in sufficient quantity to prepare it, and part will accordingly pass off in an undigested state.

But, if this attention to quantity be at all times necessary, it is indispensably so in infancy and the early periods of life ; for it is then that indigestion lays the foundation for many diseases. Indeed, most of the complaints of childhood may be referred to this source. At the same time, while excess in quantity is thus condemned, it is proper that nature should be satisfied ; and where too little nourishment is taken, we feel as much indisposed as by the opposite extreme.

In the quantity of food also much should depend on the particular situation of the individual. The hardy, active, and laborious, require, it is evident, a quantity which will by no means suit the weak, sedentary, and inactive. Even the quality should be regulated by the same circumstances. Thus, the hardy and vigorous countryman stands in need of a crude and solid food, in order that the strong powers of his stomach may have proper exercise, and that it may not pass off too quickly, but continue its proper stimulus for a certain time. But this food is by no means calculated for the weaker powers of the luxurious and indolent, who require, on the

contrary, an aliment easier assimilated, to digest which the action of the stomach is little exerted.*

All rules of diet, however, must be directed by the particular circumstances and situations of the individuals for whom they are intended. No general directions can apply so well as those drawn by every man from his own experience. But still some leading axioms on this subject ought to be kept in view, the principal of which are here laid down:—

1. The first to be attended to is, that the *nourishment taken in should be sufficient to supply the waste of the system*. If left to nature, this would properly be determined by the state of the appetite. The appetite is that sensation or call which nature employs to intimate the wants of the body, and should be indulged until it is satisfied, whenever the body is in a healthy state. The only objection to this rule appears where the stomach has been habitually over-distended: then the appetite will continue even to excess, and must not be indulged to the extent of its desire; for, the consequence of indulging this excess, would be, in the end, the production of corpulence, excess of blood, and all the dangers of over-repletion, while its immediate effects on the stomach and bowels will be equally disagreeable, in inducing head-ach, fever, diarrhœa, and other disorders.†

* *Food must take the temperature of our stomach, (which is probably not less than 120,) before digestion can commence. When the stomach is feeble, cold food frequently produces flatulence, palpitation of the heart, &c.; and all the other troublesome accompaniments of indigestion.—Dr. Kitchiner.*

† *The most common cause of dyspeptic disorders, which are so prevalent at the commencement of the third period of life (the age of 42,) is an increasing indolence, inducing us to diminish the degree of the active exercise we have been in the habit of taking, without in a corresponding degree diminishing the quantity of our*

2. The second rule of diet is, that the *stomach should be slowly and gradually filled*, as sudden distension of the stomach is both injurious to the organ, by expanding its fibres too rapidly, and also by preventing the proper quantity of nourishment being taken in. It is also injurious in another point of view, by the imperfect mastication of the aliment, by which is prevented a sufficient preparation of the food, previous to its reception into the stomach. By this means the powers of the latter will be more increased in assimilating it.

3. The third rule is, *that the aliment be prepared in a simple state*, for in this state it is found to be most nourishing. All the multiplied combinations of viands which the art of cookery has introduced and refined on, in proportion as they please the palate, are, perhaps, to be considered as destructive to health. The real nourishing part of the food is only what is convertible into *jelly or mucilage, oil and sugar*. All the other parts are unnecessary appendages, which, by their bulk, merely fill the stomach; though this distension of the organ acts, perhaps, in an indirect manner in conducing to promote digestion, by keeping a certain stimulus upon the organ, from this expansion of its fibres.

4. The fourth rule is, *to confine the aliment to one kind*, or rather to eat chiefly of one dish. By this practice the stomach is not solicited to eat too much, which is apt to be the case where variety prevails; and, from one

food; on the contrary, people seem to expect the stomach to grow stronger and to work harder as it grows older, and to almost entirely support the circulation without the help of exercise.—*Dr. Kitchiner.*

wholesome dish, nourishment is better prepared and concocted than from an heterogeneous profusion.*

5. A fifth, and very important rule in modern life is, *not to make the distance between meals too great.* Thus, the body will be regularly supplied with nourishment, and no unusual craving or debility ensue. The regulation of this distance should be determined by the process of digestion. This process we find generally completed in three or four hours; and, observing this rule, every meal should succeed another at this distance of time.† Long fasting is attended with effects equally pernicious as over-repletion. It produces a tendency to putrescency, and the general mass of fluids becomes tainted. In consequence of it also, the appetite begins to fail, a loathing of food ensues, and a slow creeping fever pervades the system, and enfeebles every action of life. The distance between meals, as observed by modern fashion, tends somewhat to induce the same evil, though not in that degree. Protracting dinner, the principal meal, to a late and unusual hour, so far destroys the tone of the stomach, as to prove the origin of most of those dyspeptic complaints which affect men of business, and the higher ranks of life. This meal, from its late season, is more indulged in, than it otherwise would be.‡ The stomach, in consequence, becomes over-dis-

* It is your superfluous *second courses*, and ridiculous variety of wines, liqueurs, ices, desserts, &c., (which are served up more to gratify the pride of the host, than the appetite of the guests) that *overcome the stomach, and paralyze digestion.*—*Dr. Kitchiner.*

† As a general rule, the interval of fasting should seldom be less than three, nor more than five hours.—*Dr. Kitchiner.*

‡ “We often tease and disorder our stomachs by fasting for too long a period, and when we have thus brought on what I may call a discontented state of the organ, unfitting it for its office, we set to a

tended, and, no time being allowed by the approach of evening, for the exercise necessary to assist digestion, this process is not completed till the hour of sleep. Hence, crudities are generated, *night-mare* and other affections from over-repletion interrupt rest, and morning uneasiness succeeds this too late and solid repast.

6. The sixth rule is, *not to allow exercise immediately to succeed a meal.* Digestion quickly follows the reception of the food. Nothing, therefore, should interfere with the action of the organ wholly engaged in this process. This rule is particularly applicable to the delicate and nervous; and the brute race pay particular attention to it, by lying down and enjoying a state of rest the moment their stomachs are filled. With man the pursuits of life and the engagements of society do not, in general, permit it to be carried so far; but, a sufficient time of rest should be allowed after every meal, that the operation of digestion may fairly and regularly proceed. Sleeping after dinner, the principal meal, is the practice of some countries; and this practice is only to be condemned where it is carried too far. After middle age, it will always be found useful; and, it is highly necessary in warm climates, where the body is feeble and enervated by the relaxing influence of the burning atmosphere, and where the diet, being also more of a vegetable kind, requires to be more completely assimilated, in order to its conveying a full proportion of nourishment.

With these leading facts, or general rules, held in view in regard to the use of aliment, we are prepared to enter

meal, and fill it to its utmost, regardless of its powers or its feelings."—*Abernethy's Surg Obs.*

upon the particular kinds of it commonly introduced at table; and, first, of animal food.

Animal Food.

Animal food we are to consider both as the most nourishing and stimulating of all aliment. Hence, when prematurely and excessively used, as is too frequently done with children, it tends to bring on too early a maturity, to exhaust the system by an excess of strength, and, of course, to induce in the same proportion a rapid decay. But, though this is the general tendency of all animal food, it differs from itself in its several species or kinds more than most other sorts of aliment, in consequence of the difference in the nature of the animals from which it is taken, in their mode of life, and a variety of other circumstances.

The use of animal food must also be regulated by external situation. From its strong stimulant powers, it agrees best with a situation in which the action of the system is rather depressed. Thus a cold atmosphere is more suited to that kind of diet than any other; and the influence of summer both requires its quantity to be abridged, in order to preserve the body in health, and also, in order to avoid its tendency to induce a putrid state, which is best counteracted by a suitable interposition of vegetable matter. Excess of animal food naturally renders men fat and plethoric: and as disease is the unavoidable consequence of this state of repletion, such moderation should be observed in its use as not to exceed what is strictly conducive to health, the deficiency of quantity being made up by a suitable in-

terposition of vegetables. The appetite, though certainly intended to be so, we are not to consider the proper criterion of the quantity required to supply the waste of the system; for this guide we find too often apt to be violated, and a craving will continue to remain after the fullest meal.

Quadrupeds.

Of the different kinds of animal food, quadrupeds certainly afford the strongest and most copious nourishment. Game, though not the most nutritive, is the most stimulant and heating species. Tame animals, full grown, are next in rank, and young domestic animals are least so.* Carnivorous animals are also more stimulating than the granivorous, and, therefore, are more liable to produce a putrescent state of habit when used.

Fish, in point of stimulating quality, are greatly inferior to quadrupeds, and, though they contain a good deal of nourishment, yet it is less congenial to our nature. The use of some kinds of it is even attended with danger, and produces morbid effects not unfrequently terminating fatally.

Poultry is the mildest and most wholesome of animal food, from its situation and mode of life. It is less apt to be injured by the refinements of luxury, and may ac-

* Nothing comes to perfection under a stated period of growth; and till it attains this, it will, of course, afford inferior nutriment. Beef and mutton are much easier of digestion, and more nutritious, than veal or lamb. If the flesh of mutton and lamb, beef and veal, are compared, they will be found of a different texture, the two young meats of a more stringy indivisible nature than the others, which makes them harder of digestion.—*Domestic Management.*

cordingly be more largely employed, without producing any noxious consequences to the system.

Beef contains a strong wholesome nutriment, and is most suited to those who possess a vigorous stomach, and use much exercise. Roasting is the most nourishing form of eating it. It is always in season, and is therefore more relished than any other species of animal food.*

Lamb is a light wholesome food, and highly nutritious; and a fit aliment, from its easy digestion, for the sickly and weak. It is best when six months old, and is preferable to that used at an earlier period. Like all young

* The medium between *over* and *under-dressing* is, in general, most agreeable, and certainly most wholesome. That meat which is considerably *under-done*, contains more nutriment than that which is *over-done*, is true enough,—that which is not done at all, contains a great deal more; but, in the ratio that it is raw, so is it unfortunately difficult of digestion, as Spallanzani has proved by actual and satisfactory experiments.

Our food must be done either by our cook, or by our stomach, before digestion can take place. Surely no man in his senses, would willingly be so wanting in consideration of the comfort, &c. of his stomach, as to give it the needless trouble of cooking and digesting also, and waste its valuable energies in a work which a spit or a stewpan can do better.

Our neighbours of France are so justly famous for their skill in the affairs of the kitchen, that the adage says, “As many Frenchmen, as many cooks.” Surrounded as they are by a profusion of delicious wines, and seducing *liqueurs*, offering every temptation to render drunkenness delightful, yet a tippling Frenchman is a *rara avis*. They know how so easily to keep life in sufficient repair by good eating, that they require little or no screwing up with liquid stimuli. This accounts for that *toujours gai*, and happy equilibrium of the animal spirits which they enjoy with more regularity than any people: their elastic stomachs, unimpaired by spirituous liquors, digest vigorously the food they sagaciously prepare and render easily assimilable, by cooking it sufficiently—wisely contriving to get half the work of the stomach done by fire and water, till

The tender morsels on the palate melt,
And all the force of cookery is felt.—*Dr. Kitchiner*

food, it should be eaten with a portion of vegetable acid, to correct its insipidity.

Mutton, or the animal at its matured age, is a far preferable nourishment. It should not be younger than three years when used. Roasting is its best form; and before dressing it, it should be exposed for some days to the open air, which mellows it and renders it more digestible. The fat of mutton is less easily assimilated in the stomach than the fat of most other animals, from its tendency to coagulate. The lean of this animal is, therefore, the preferable part for food.

Pork forms a strong nutritious food; but, from its great quantity of oil, it requires much exercise and a good digestion, to use it largely as aliment. In all cases where there prevails either a strong tendency to inflammation, or where there exists a fault in the fluids, pork is an improper and pernicious species of nutriment. A less quantity of it is necessary than of most others; and its digestion should be assisted by the use of acids, or it should be employed in a form in which salt is largely conjoined with it, to assist the solution of its oily parts. Hence, salted pork is most digestible, if not too much smoked or dried. The qualities of pork may be said also to differ much, from its mode of feeding; and by more attention to rearing it for its quality, than in order to procure a great accumulation of fat, which is the object aimed at, it might be rendered a species of nourishment equally wholesome with any other. In the wild state, the flesh of this animal is a preferable food, both in point of relish and digestibility.

This is the sum of the observations necessary on the first division of animals used for food, or the quadrupeds

of this country. The second division, or poultry, offers a much lighter and more wholesome elementary substance; but, in the same proportion is its nourishing quality inferior. The cock and hen are in most general request. The former, if old, is only fit for soup; but, at the same time, the capon is one of the most delicate viands we possess, and, from its tender juicy fibre, is easily assimilated into chyle. The young hen is equally wholesome, and may be considered in its mildness as nearly equal to vegetable aliment. It is the food generally recommended for the invalid, and it is best prepared by roasting.

Geese and ducks are a strong, and afford rather an unwholesome nutriment. They have been supposed as giving a tendency to cutaneous diseases. Their fat is certainly highly indigestible.

Turkey is not so light an aliment as the hen or capon, and some parts of it are difficult of digestion. As it is usual also to accompany it with stuffing, this effect is even increased by the form of eating it.

From poultry, then, we proceed to fish, which is less congenial to the animal nature than the two former divisions. It affords but an incomplete nutriment, and it is not so digestible as the animal food already considered. It possesses also (its peculiar characteristic) a strong tendency to putrefaction. Hence, there are many objections to its use, from the natural habit or state of health of individuals at the time. These faults of fish, however, are somewhat corrected by the manner in which it is commonly eaten: sauces and pickles of an acid nature are generally employed with it when eaten in a fresh state.

Salt and dried fish, though difficult to digest, are useful in some cases, where an acid acrimony in the stomach or first passage prevails. Salt fish prepared by a natural exposure to the open air, and washed with salt water, are less injurious than those cured by oil.

Shell-fish have been considered as highly nutritive: from their indigestible nature, they certainly continue long on the stomach, which may have given rise to this opinion, without any proper foundation for it.

Lobsters possess a peculiar acrimony, and, unless eaten very fresh, are a dangerous food, even though corrected by the acid and spices used along with them.

The same observations may be applied to the crab. Eruptions of the skin are said very often to attend the use of this aliment.

Oysters are the safest food of this kind. They are best eaten raw, and contain much nutritive jelly. They prove laxative in this state, and have been much recommended in consumptive cases. Snails, though seldom eaten, are used as a remedy, with the same view.

Museles are a food that often proves of a deleterious nature; and much caution should, therefore, be observed in using them. The vegetable acid is accordingly a proper addition here.

The chief of the amphibious tribe, is the turtle or tortoise, reckoned of the first luxuries of the table. Its flesh is wholesome and delicate; and it resembles, in its salubrity, veal or young poultry. When used in the natural state, it cannot fail to prove highly nutritious: but when changed by the refinements of cookery, and united with such a number of heterogeneous articles as are used in its dressed state, its nourishing qualities

must be in part destroyed, and the only effect of its improvement will be, to excite fever and overload the stomach.

Besides the turtle, some parts of frogs are also eaten, particularly the legs, and are much relished when prepared as a fricassee.

Of Vegetable Diet.

In this species of diet a great variety occurs: but the first and leading division of it is that which arises from grain or farinaceous seeds. The farinaceous grains contain much nourishment, and, as a proof of it, they yield a copious mucilage: but they are, at the same time, somewhat difficult to digest. From these grains is prepared what we name bread, which has been considered so essential to our support as to be termed the *Staff of Life*. This portion is divided into two kinds, leavened and unleavened bread. Leavened bread is that prepared by a slow fermentation, in consequence of which all the tough parts of the flour are ultimately mixed with the dryer parts, and, by the after-operation of baking, the fixed air comes to be expelled. This preparation of bread is, therefore, the most wholesome, and, the longer it is kept, it proves the more so. New bread contains much indigestible paste; and, its fixed air not being entirely expelled, it becomes extracted in the stomach, and produces flatulence, cramp, and indigestion. This effect is easily prevented, either by keeping the bread till stale or toasting it. Stale bread is, therefore, at all times the most wholesome, as, by this delay of using it, the process of mixture and fermentation is entirely completed,

and particular attention should be paid to using it in this state, by all who are liable to complaints of the stomach, which are readily incurred by this cause. Unleavened bread is that prepared by the simple mixture of flour and water, without subjecting it to any fermentation. Such bread is always indigestible, from its viscid nature, and from the quantity of mucilage with which it abounds.

This particularly applies to all unfermented preparations of flour, whether in the form of bread, pudding, or pastry: the two latter of these forms are even rendered worse in this respect by the different articles with which they are mixed.

The quantity of bread that ought to be eaten, must be regulated by circumstances. Where animal food is much used, less of it is necessary than of vegetables of a watery or acescent nature. But, where the proportion of vegetable diet is intended to exceed, bread, as being the most nutritive article of this class, should be much preferred.

The same situations also of individuals that exclude much use of animal food, recommend, in a reverse proportion, the increase of this article; and a certain quantity of it is necessary, we may say, with every species of diet, to prevent that satiety and disgust which we feel from the long continuance of every other article but itself. If one-third of animal food to two-thirds of vegetables, be a proper proportion of diet, then these two-thirds should consist more of bread than of any other vegetable preparation.

Of the different grains for the preparation of bread, wheat is the principal. It is originally, we are told, the

production of Sicily; but, in consequence of the improvements of cultivation and agriculture, it is rendered the most nutritive grain we possess, and very different from what it was found in its original state.

Rice may be considered as the grain most used next to wheat, although it affords a nourishment less permanent. While wheat is the favourite production of the Western hemisphere, rice is, in the same manner, of the East. It forms almost the sole diet of the Gentoos, who correct its imperfect stimulus in the stomach by the addition of aromatics, spices, and other seasoning, to the highest excess.

Rye and oats are the grain next in repute for the same purpose. Rye bread is reckoned easily digested, and very wholesome, having little tenacity. It is an article much used on the Continent. Oats are an article of stronger nourishment than rye; and, like the rice of the Gentoo, form the principal diet of the poorer classes of the northern parts of the British Islands. This mucilage is much used by the invalid and infirm, both as a nourishing substance, and as possessed, at the same time, of a gentle aperient quality.

Barley may be mentioned after these grains, as forming less an article for bread, than being the basis from which the malt liquors, after it has undergone a fermentation, termed *malling*, are procured. Its consideration belongs to this head, though it is occasionally used, in its natural or decorticated state, in broths and soups, to give them consistence and a mucilaginous quality.

Millet is a grain inferior to any that has been enumerated, and its mucilage is too crude for any but the most active stomachs.

The manna-grass may be here noticed as a favourite seed of the Germans and Poles. It has a sweet agreeable taste, and, boiled in milk, is said to prove remarkably nutritive. It is used more for invalids than as a common article of diet.

The second order of vegetables, termed *pulse*, differs from the class now examined, chiefly in its proportion of strong gluten, and the quantity of fixed air its particles contain. Its bread, therefore, though perhaps even more nourishing, is difficult of digestion, and forms properly a diet for only active and laborious stomachs: it produces a costiveness, and these effects are increased in proportion to the age of the articles. The chief individuals of this class in this country, are beans and peas; and in their use much caution is necessary to counteract those effects they produce on the stomach and bowels.

When young and in their recent state, green peas and French beans are favourite dishes. They are still to be considered as flatulent, but, at the same time, digest with sufficient ease.

The third order of vegetables for diet are the various species of greens. These are chiefly used to counteract the effects of animal food, as they are of a watery and somewhat acescent nature, and, at the same time, contain little nourishment. They are, in summer, a proper addition to other food, and, being of a laxative nature, they are useful in this season to relieve the bowels where costiveness takes place, as is usual from the increased discharge by the skin. If eaten in a raw state, their solution in the stomach is assisted by vinegar, and other condiments.

All the cabbages are hard and indigestible. They

require a great deal of boiling, and cannot be too much softened in their texture to render them fit for the stomach.* Sour krout, or cabbage in the raw state, sliced, salted, and allowed to undergo the acetous fermentation, is a favourite antiseptic preparation with the Germans, and is much used at sea.

¶ The next class of vegetable productions, is the roots, which, next to grain, is the most useful variety of vegetable substances. They are of two kinds, the mild and the acrid. The first are the most nourishing, the latter are chiefly eaten as condiment, or for medicinal purposes. Of the first or mild kind, the principal article is the potatoe. It is properly a light alimentary substance, neither viscid nor flatulent, and having no tendency also to produce acidity. The principal food of many countries consists almost entirely of this article, with the addition of milk; and they form together, a nourishment fit to support the most laborious and active in a state of health, without the necessity for any other kind of aliment. Such is the mode of living among the lower orders in Ireland, a country usually distinguished for the health, vigour, and natural acquirements of its inhabitants. Its flour has been recommended for pastry, and dishes prepared from its meal, in preference to that from the grain, as being of a less viscid tenacious nature. In the choice of potatoes, those of the farinaceous kind are the most wholesome, those that are gelatinous are not so readily digestible. Various inventions have been attempted to convert this vegetable easily into flour.

* Cabbage is rendered more digestible by changing the water after it has been some time boiled.

Celery is the most fragrant of the acrid roots, and, though somewhat indigestible when raw, is the reverse when prepared by boiling or soaking it in vinegar.

Garlic and its different species, as onions, shallot, and chives, are warm stimulating roots; useful in assisting digestion, expelling flatulence, and freeing the bowels of any viscid accumulations. They agree best with the cold phlegmatic constitutions; and in such, from their volatile penetrating nature, they display the happiest effects, where viscidities oppress the lungs and head.

Radishes are all of the same nature, though they are not so powerful. They agree best with an active vigorous stomach, for they are troublesome by generating flatulence, in consequence of the extrication of air that arises from their use. The smaller the radishes, the easier they are digested.

The last order of vegetable substances used in diet, consists of *fruits*. These are, for the most part, the production of summer, and they are composed of those principles which are adapted to allay that excess of heat, and increase of circulation, which the body feels at that period.

The bad qualities of fruit used in diet arise from its excess of acid, or its tendency to fermentation. The more unripe the fruit, the more it will possess of its acid principles; for this is converted, as it proceeds to maturity, into a saccharine matter, or sugar; and, it is in this ripe state, when it abounds in the saccharine matter, that fruit is most safely used. The tendency to fermentation, again, will be much connected with its quantity of juice: the more juicy, therefore, any fruit is, the

more fermentable it will be upon the stomach, and the more apt to generate flatulence and the other symptoms connected with it. The dryer, then, any particular fruit, the safer it is for the stomach. These bad qualities of fruit are corrected in several ways.

1. By the mode of preparing it for use. Thus, boiled it is less flatulent than in its natural state.

2. By the addition of spices or sugar to it, which will check its flatulent tendency, and correct its acidity; and,

3. By its junction with alcohol or ardent spirits, as a little rum or brandy, which will destroy the disposition to ferment. By either of these methods it may be safely employed in moderate quantity, as an addition to other diet at that period of the season when aliment of a cooling nature is required.

The following may be properly termed *farinaceous fruits*, possessing a mixture of properties.

The first of these is the cucumber, which is a cooling production, gently opening, though liable to ferment. This effect may be corrected by the addition of spices. In the form of a pickle it is an useful antiseptic.

Melons much resemble cucumbers. They require the addition of alcohol or wine, with sugar, to prevent their fermentation on the stomach.

All the nut kind, as almonds, walnuts, hazel-nuts, filberts, &c., though they are of a nourishing nature, yet are both indigestible from their hardness, and also contain a considerable quantity of oil. This oil, by becoming rancid on the stomach, is very apt to produce heartburn. In eating these fruits, they should be fresh, and their acrid skin carefully removed.

2. *Of Drink.*

Aliment we have hitherto considered chiefly in a solid state, or in the form of food : we are next to examine it as a liquid, under the name of *drink*. Drink is, perhaps, more necessary than food to the support of life, and without it even the digestion of food cannot take place. The want of it, or too sparing a use of it, produces the worst effects, both on the stomach and bowels, and also extends its powerful influence to the blood, which acquires, from this cause, an acrimony highly pernicious ; nor are the secretions less injured, which also assume the same vitiated state, and lay the foundations of obstructions of a fatal nature.

The rules, however, for drinking, require the same caution and regulation as for eating ; and the principal of them may be reduced to the following heads :—

The first rule is, the quantity to be used, and this is to be determined by five circumstances, viz. the degree of thirst, the time of the season, the quantity and nature of the victuals, the hour of the day, and the state of the constitution.

The first is regulated by our desire ; and as the cessation of hunger is properly the test of the quantity of food, so the allaying of thirst should certainly be the criterion for the quantity of drink. In all cases the proportion of drink should be greater than that of food, and double the quantity has been stated as a good general rule to be guided by.

The second, or the time of the season, will also regulate the quantity to be taken. Thus, in summer, when

The discharge of the skin is increased to excess, double the quantity is necessary to what is required in winter, when this discharge proceeds in the usual and regular state.

The third circumstance, or the quantity and nature of the victuals, is equally to be attended to here. Thus, a large proportion of victuals will require a greater dilution than a small portion; and the dryer the nature of the food, the more beverage will be necessary.

The fourth circumstance, or the hour of the day, will also regulate our quantity. Thus, we are in general less inclined to drink in the earlier than in the later hours of the day, from the fluids in the early part not being dissipated by exercise, or other causes increasing the action of the system.

The last circumstance, or state of the constitution, has also an equal influence; for the phlegmatic and melancholic constitutions have less inclination to drink than either the sanguine or choleric.

As the object of all drink is the dilution of all food, it should neither be begun before a meal, nor continued much in the course of it. It should properly succeed it, regulated by the rules we have already laid down.

Excess of drink is, perhaps, not equally hurtful as the want of it; but, still it is attended with pernicious effects, in relaxing the stomach too much, and in inducing an impoverished state of the fluids, which lays the foundation of the most obstinate chronic maladies.

Having thus determined the quantity to be used, the next regulation respects its quality, including a consideration of the various simple and compound liquors employed at table.

Water.

The first beverage, the basis of all other liquids, and the means by which the aqueous parts of the system supply their waste, is water. This fluid is very different, from the qualities it receives from its various impregnations; for it never can be considered as an entirely simple body. All water, however, may be esteemed fit for the use of man, which does not contain above ten grains of mineral or earthy matter in the pound, and comes under the denomination of *soft water*. All water that exceeds this proportion is to be considered as hard water, and to be rejected from domestic use.

Water, however, though soft, is often contaminated by various impurities; and when no other is to be had, from the particular situation or circumstances of individuals, it becomes then necessary to be acquainted with the different methods of rendering it, even in this tainted state, fit for use.

The first method of purifying water is, by boiling and filtering, or, what is more effectual, by submitting it to distillation. But this method gives to the fluid a mawkishness and insipidity disagreeable to the taste. To keep it from corruption or impurities of this kind, acids or charcoal is the most certain method. Thus, half an ounce of powdered alum will purify twelve gallons of water. A small quantity of alkali and vitriolic acid will even preserve a cask of it from this state. Lime, in a very trifling proportion, will do the same. Vinegar forms a good antiseptic, where bad water is used. Charcoal is a powerful corrector of putrescency, and the

staves of water-casks have been therefore recommended prepared in this way.

The moderate use of water of a proper temperature is the best beverage that can be employed. It strengthens the stomach, assists digestion, and gives a proper impulse to the circulation of the small vessels. In the list of longevity, water-drinkers stand high; but, in its use, the circumstances of the individual must regulate both its quantity, and also the temperature in which it ought to be employed.

Division of Liquor.

Water, then, forms the basis of all other liquors; and the latter may be divided into two heads, as they are the production of the process of fermentation and distillation.

Wine.

The first of the fermented liquors that claims our attention is wine, a liquor which has received the highest encomiums, and which, properly used, is the solace of the invalid and aged; but, when the reverse is the case, it proves the ruin of the constitution and the source of disease. All wine contains three principles; a proportion of alcohol, of acid, and of sugar, with a particular aromatic principle or flavour, with which the distinction of wines is connected. On the predominance of one of these principles does the strength or weakness of the wine depend.

For the weak and infirm, those wines in which the

proportion of the sugar or saccharine principle exceeds, are the most proper, as the sweet wines of Russia, Italy, Greece, Malaga, &c.; but they ought to be properly fermented, and have no posthumous addition of sweets, as sugar or honey, to adulterate them after the process.

For the variety of complaints in which fever or increased circulation is predominant, those wines which are distinguished by an excess of the acid principle are most useful, particularly those of France and many parts of the Continent. The degree of strength in which those wines should be used, must be determined by the nature of the complaint and the state of fever present in the system.

For the real state of health, wines in which the principles exist in a just proportion are the most proper. Those that contain their suitable quantity of alcohol or spirit, if not carried to excess, will, on the whole, be the most salutary beverage.

The general effects of wine are those of a stimulant liquor on the system. It increases the circulation and gives activity and animation to every part; but, along with this general influence it displays, it possesses secondary qualities no less useful. From an acid forming one of its constituent principles, it is particularly antiseptic, or good against a putrescent tendency in habit, and, as such, is highly beneficial in all putrid states of body. The excessive use of wine, however, is always attended with hurtful consequences. The nervous system particularly suffers, and those quick feelings and sensations that fine part of the frame termed the nerves is intended to possess, become dull, blunted, and incapable of conveying the usual impressions. Its tempo-

rary influence is still more powerful ; for during the few hours of intoxication apparent insensibility ensues, and a tendency to palsy and apoplexy is conspicuous. This real state of temporary disease is to be alleviated by a cool air, a proper posture, with the head raised, and the removal of all pressure from the body, with the free use of diluent liquors.

The consequence of intoxication is a deep and sound sleep, awaking from which the body feels weak and tremulous : the stomach is much disordered by a superabundant acid, which often requires the use of absorbents to remove it ; at least twenty-four hours are necessary before the body is restored to its ordinary health.

The use of wine should be confined to the more advanced stage of life. Water is the proper beverage of youth as long as the constitution retains its soundness and vigour ; but, as the progress of time weakens the powers of the frame, or temporary causes induce the same effect, then an indulgence in wine and other incubriating liquors, to a certain extent, becomes necessary. But, in addition to the various effects arising from wine, as an incubriating liquor, its adulteration often renders it particularly dangerous.*

After wine, follows a beverage which we term *ardent spirits*. As wine is formed by the process of fermentation, ardent spirits require in addition to this a second process, or distillation. The principles of this compo-

* To ice wine not only deteriorates its flavour, but by rendering it dull in the mouth—people are induced to drink too much, as they are deprived of the advantage of knowing when they have got enough ; for as soon as the wine becomes warm in their stomachs, the dose they have taken merely to exhilarate them, makes them drunk.—*Dr. Kitchiner*.

sition consist of alcohol, water, and an empyreumatic oil ; and the less of this oil that is present in it, the purer it is considered as a spirit. Proof spirit, which is the standard of this composition, is made up of fifty-five parts of alcohol and sixty-five parts of water ; but rectified spirits should contain no more of the latter than five parts.

The intoxication that attends the use of ardent spirits is well known, and their powers are increased when distilled with spices and aromatics. They are best taken to prevent the noxious influence of cold and moisture ; and, though in general considered useful after strong or oily food, this is more a popular prejudice than founded on just principles. Rigid or dry constitutions should be by no means indulged in this beverage. Relaxed habits will receive a certain temporary tone and vigour from their use ; but this should also be under considerable limitation. In some circumstances ardent spirits are powerful antiseptics ; and in a moist cold atmosphere, or where pestilential vapours prevail, their use will be attended with some good consequences.

The certain effects of the habitual use of ardent spirits are to occasion a destruction of the principal organs, particularly of the liver, and along with this to occasion a dull torpid state of the nerves, which ends in a general debility and relaxation of the system.

Next to ardent spirits come to be noticed *malt liquors*, which are composed of water, malt, and hops. They are, however, known under two species of beer, or porter, and ale ; and the species chiefly differ in the mode of preparing the malt, the proportion of hops, and in the degree of fermentation. The addition of the hop

is highly useful, as counteracting the effects of the mucilage, and preventing the tendency to flatulence and diarrhœa, which is apt to occur where it is not used. The degree of fermentation occasions a great variety in malt liquors; for some are only half fermented, as the Dantzic, or black beer; others are more than fermented, as the Burton and other strong ales.

The more malt liquor is deprived of its fixed air before being used, the more safely it comes to be exhibited; though, bottled, and in the gaseous state, it is often useful as a medicine.

Malt liquor, if deprived of its fixed air and well hopped, is both nourishing and wholesome. It is more fitted for the laborious and active than the indolent and nervous, and will be found on the whole to agree well where the stomach and bowels are in a healthy state.

From fermented and distilled liquors we come to those that are more purely diluent; the first of which is

Tea.

The leaves of this shrub are the part used; and their infusion is evidently of a narcotic nature; but so slight, that it will only show its effects as a narcotic where the nervous system is either naturally very irritable or rendered so by disease. The proofs of this narcotic nature have been subjected to experiment by the late ingenious Dr. Cullen, who has argued upon their deleterious effects as an article of diet; and in farther confirmation of the same opinion, the increase of nervous diseases, according to the bills of mortality, has corresponded annually in proportion to the increased consumption of this article.

But though these facts certainly deserve attention, we are convinced that the use of tea, in a moderate proportion, joined with a due quantity of solid nourishment, will never be attended with any hurtful consequences, though some circumstances should be attended to in its use, as a proper preventive measure where it is indulged in.

1. The first is, that the infusion be weak. This is the practice of the Chinese, who always prefer a weak beverage, of which habit has introduced with them the propriety.

2. The second is, the kind of tea employed; for the Bohea, or the shrub in its native state, is preferable to the green, or the unripe production.

3. The articles used with it; for a due proportion of sugar and cream, or milk, ought never to be omitted.

4. The manner of preparing it; and here boiling is preferable to simple infusion, as dissipating a part of the aroma, in which its deleterious qualities exist.

With these precautions, then, tea will form a proper dietetic beverage. It is more diluent, though less nourishing, than the cocoa. It is less aromatic and drying than the coffee, and it is sufficiently cordial and exhilarating to the nervous and weak, who are fondest of it.

Coffee.

From tea we are led to another dietetic beverage, the infusion of the bean named *coffee*. The qualities of this production are unfolded by roasting; in the manner of doing which some nicety is required to prevent the

loss of its aromatic parts, on which its perfection depends. The consequence of this operation, however, is to render the infusion from it heating and astringent; and it is therefore not suited to particular habits.

In ordinary use, it should not be made very strong; and to correct its astringent tendency, a large portion of milk and sugar should be conjoined with it.

Chocolate.

The last of the dietetic articles of this class to be mentioned, is *chocolate*. It is not liable to the same objections as the two former, being neither narcotic, heating, nor astringent. It is properly a mild nourishing substance, containing a large proportion of oil; and according to the mode of preparing it, is this oil rendered hurtful to the stomach, or not. To avoid, therefore, rancidity in forming it, and to join with it aromatics to render it light, are the two circumstances to be attended to; and where this takes place, it is the most healthy beverage that can be employed, for all constitutions and habits. It requires less correction than any of the former; and its praises have been sounded as one of the most useful restoratives and aphrodisiaes ever introduced for the use of man.

Spices, or Condiment.

Having given a cursory view of the different articles of diet, under the head of *food* and *drink*, it remains to consider how these are prepared, in order to please the

taste, by certain additions of a saline or aromatic nature, under the denomination of *spices*.

The first of the saline spices, and the most general in use, is

Sca Salt.

This substance may be considered as a necessary ingredient in the food, and as necessary to the health of the human frame, in a due proportion, as the food itself. It assists the digestion in a remarkable degree, disposes the glutinous parts to an easier solution, and accelerates the motion of the organs concerned in the preparation of the aliment, so as to perfect that operation. It corrects the principles in vegetable matter, which, by an excess in their use, may prove hurtful to the habit; and, when used itself in a similar excess, it proves equally the cause of disease, by thinning the solids and giving a disposition to seurvey.

Sugar.

Sugar is an article, which, though not essentially necessary like the former, is perhaps nearly as much employed in the preparation of our aliment. Like every saline substance, its excessive use must be hurtful, by thinning both the solids and fluids, and disposing to those diseases which are connected with that morbid state.

Honey.

Honey, in its properties, much resembles sugar, but is peculiar in its effects on some constitutions, which

renders it unsafe with many, and apt to produce flatulence and disorders of the stomach and bowels. It is an useful laxative to those with whom it agrees, and particularly where there is a disposition to calculous complaints

Peppers.

The different kinds of pepper, though heating, are the most innocent of all the spices; and they form an useful addition to all indigestible food, whether animal or vegetable, by increasing the powers of the stomach to dissolve it. They are best used in the form of powder, by which their virtues are more fully imparted; and they are also an useful medicine in stomach complaints, attended with a viscid secretion, flatulence, pain of head, &c. In such cases they may be swallowed whole, in six or eight grains at a time.

The finer warm aromatics are not altogether fitted for common use, from their heat and pungency. To some kind of food their increased stimulus is necessary. *Cubebs* are less pungent than pepper, though their heating quality in stews is more permanent. *Cardamoms* are distinguished by their grateful aromatic smell. *Vanilla* is chiefly employed in chocolate, to render it light and digestible, and to impart to it a particular flavour. *Cloves* are highly exceptionable, from their very heating nature. *Mace* and *nutmegs* are less so, and supposed to possess qualities which render them useful in diarrhœa and dysentery

3. *Of Exercise.*

Exercise forms, as it were, a necessary appendage to our existence, without which man cannot live, nor health be procured. The more we examine the human constitution, the more the powers of man seem fitted for action. Indolence and inactivity are with him the certain source of disease, and temperance and exercise are his surest guardians of health.*

The general effects of exercise are to increase the strength of the body by preserving the vigour of circulation, and thus expediting all the secretions and excretions, by which the vital stream is preserved in a pure and healthy state, and all obstructions prevented or done away.

Exercise, though thus attended with the best consequences, should yet be kept within due bounds, and these proportioned to the habits of life and the constitution of the patient.

* "Most chronic diseases, arise from too much food and too little exercise, both of which lessen the weight of the heart and the quantity of blood; the first by causing fatness; the second by a diminution of the blood's motion.

"Hence, when the liver is grown too large by intemperance and inactivity, it may be lessened and brought to a healthful magnitude by temperance and exercise. It may be emptied other ways by art; but nothing can prevent its filling again, and consequently secure good and constant health but an exact diet and exercise. Purging and vomiting may lessen the liver, and reduce it to its just magnitude; but these evacuations cannot prevent its increasing again so long as persons live too fully, and use too little exercise, and can only be done by lessening the food and increasing the exercise."

"Much sleep, much food, and little exercise, are the principal things which make animals grow fat. If the body, on account of age or other infirmities cannot use sufficient exercise, and takes much the same quantity of sleep, its weight must be lessened by lessening the food."—*Dr. Kitchiner.*

Repletion, or fulness of habit, is evidently an enemy to it in a great degree: the sudden use of it, or violent exertion quickly applied, is mostly to be guarded against, and a regular equable manner of applying it should be pursued; and with similar precaution, after it exposure to cold should be equally avoided.

Exercise has been properly divided into two heads, the active and the passive.

The former of these is adapted to the young, vigorous, and athletic; the latter better suits the old the invalid, and the infirm.

Exercise should be regulated, both in its time and duration, by a variety of circumstances. It should rather precede than follow the reception of food, and it never should be carried so far for the purposes of health as to induce much fatigue. Every person will be able to judge of the degree which does him good, and beyond this point he should not carry it.

Every exercise to which we are accustomed will be found best to agree with us; and it should be often gently increased in the progress, and gradually discontinued. In the open air it is most useful; but this must be regulated often by the state of the weather; but all violent exercises are best performed in that situation.

Exercise should be equally avoided immediately before and after a meal. Before a meal it dissipates too much the fluids concerned in the preparation and digestion of the food; and immediately after a meal it suspends altogether this process. Much, however, of the mischief from this source will be got the better of by custom; though still every thing that savours of

great exertion should be avoided, and only the milder kinds of exercise put in effect.

The first kind of exercise that claims to be noticed, is walking; and perhaps it is of all others the most useful and healthy. Both body and mind are enlivened by it, and it is highly serviceable when carried to an extreme in many nervous diseases. The most proper situation for walking is the country, in serene and dry weather; and the situation of the latter should be particularly studied, in the use of this exercise, to give it proper effect. Even in the country, damp marshy ground is to be avoided; and walking here will have more effect on one accustomed to a town, than on others not confined to this situation.

Running is an exercise of much exertion, and is particularly to be avoided when a tendency prevails to complaints of the chest, or there is much fulness of habit.

The same observation may be made on dancing, which is generally carried to excess; and thus what is meant to be a gentle exercise is converted to a source of disease. Where it is also generally performed in heated rooms, and under a confined and vitiated atmosphere, the worst effects are known to follow this favourite indulgence.

Of the passive exercises, riding is one of the most conducive to health. Riding in a carriage, as being the most gentle, is best adapted to the invalid and aged: it promotes the circulation in an easy agreeable manner; and, if the carriage be properly suspended, and not too nicely, the motion will be sufficiently strong for every purpose. It has also one farther advantage where a

close carriage is used; that it may be either considered as an exercise in the open air, when the windows are let down, or it may be viewed as an exercise at home, where the carriage is close and confined.

Riding on horseback is an exercise attended with considerable exertion both of mind and body; it is therefore well suited to the healthy, young, and active; and it is also particularly beneficial where obstructions exist in any of the organs. Hence it has been strongly recommended in consumptive complaints, from the days of Sydenham to the present time. This admirable practitioner, in affections of this nature, considered it as a *specific*. It should be used in this case at least for three hours every day. All visceral obstructions, by the increased circulation it excites, are benefited by it; but some caution is necessary where they are of very long standing, as inflammation may be produced where the exertion is too great.

Sailing is a passive exercise, well suited to a state of disease, especially where the stomach or lungs are affected. It produces at first much sickness and nausea, and occasions the stomach and adjacent organs to be completely unloaded: bilious complaints, therefore, are removed by it.

Reading aloud, singing, and other exercises of the voice, contribute much to influence the state of the digestive organs and the lungs; and when other exercises cannot be used, they form a useful substitute.

Wind instruments have been much condemned, and with great propriety; as being too powerful in the exertion they occasion, by hurrying the circulation in the lungs.

In taking exercise, much attention should be paid to the ease and freedom of dress, particularly of the neck and joints, that the circulation may not be confined at any one part, but be permitted to move on every where with freedom and ease.

In violent exercises, particularly that of riding on horseback, much advantage will be derived from supporting the bowels by a broad belt, the pressure of which must be regulated by circumstances.

Exercise, however, is more especially useful in the temperate and cold climates. It is less necessary in the warm ones ; and, instead of it, friction is generally substituted, which is no less useful in every situation.

Friction is employed in different ways, either with the naked hand, with flannel, or with a brush. It has been a practice peculiar to the eastern nations from time immemorial, and experience has shown it to be attended with the best consequences to the general health.

Every part of the body may be subjected to this operation, but the belly and spine are the chief parts that require it ;—the extremities only in cases of age or disease. The several postures of the body may be even mentioned as different species of exercise ; but they should be occasionally changed, and one posture not continued too long, otherwise the intended effect is lost.

On the whole, of the active exercises, walking may be considered as the best and most natural, where it is properly employed, and not carried so far as greatly to fatigue. Of the passive exercises, friction is equally useful. It is best at night, as its effects are favoured by the after retirement to bed, where a free perspiration of

the parts is apt to ensue; and the state of the atmosphere should be studied while performing this operation, and no exposure of the body take place to cold or moisture, so as to counteract the free circulation induced by it.

But while the exercise of the body is thus provided for, that of the mind is no less necessary; that active irritable principle, which governs our actions and our motions, requires to be kept in perpetual change of thought and reflection, to prevent that fatiguing exertion which attends its long continuance on one object or turn of thought. Like the body, the mind is strengthened by exertion; but that exertion, if too severe, wonderfully affects the corporeal faculties. To avoid these evils, study should be carried on by starts, and any extreme thinking should be avoided, and the ideas on which we have strongly dwelt for the time should be afterwards changed by variety of games and amusements. . .

4 *Of Sleep and Watching.*

As the materials of which we are formed waste and require a constant supply, so this waste chiefly takes place while the powers of the body exert their activity, and a state of watchfulness prevails. To repair this waste, an intermission of the activity of the system is necessary; and this intermission we know by the name of *sleep*. Sleep, then, is a suspension of the more active functions, and is essential to the body, in order to repair, at times, her exhausted powers. During sleep the vital functions only are awake. They are uniformly and

steadily performed, and previous to this state a languor of the senses comes over us, and all those leading circumstances which indicate something like the annihilation of existence. In this passive situation, the senses acquire new energy and vigour, to be exerted on awaking from this supineness; and it is this additional vigour, rising to a certain height, that occasions sleep to be thrown off, and the state of watchfulness to return. Sleep may be considered as an interruption to the nervous fluid through the brain, occasioned by its weakened action or collapse; and all the causes that induce sleep show this to be the case. Hence sleep will be induced by whatever weakens, and is prevented by whatever excites or stimulates the system.

Dreams are the effect of external sensations acting upon the brain, when the sleep is unsound, and seldom occur during the first hours of this state. Ideas which have lately occupied the mind are the chief objects of our dreams, and they are apt to occur with the sickly and intemperate, more than with the healthy and the regular.

Tranquillity of mind and body is a necessary attendant on the enjoyment of sleep, and whatever interrupts this, banishes this grateful indulgence. None have more influence than affections of the mind of a depressing nature. Hence it flies the individual occupied with grief; or, in the beautiful language of the poet,

“Tir’d Nature’s sweet restorer, balmy sleep,
 “He, like the world, his ready visits pays
 “Where fortune smiles; the wretched he forsakes
 “And lights on lids unsullied with a tear.”

The proper time for sleep is pointed out by nature,

when the beams of day are withdrawn ; but nature does not require a lengthened period of the whole night, but is satisfied with a moderate proportion of it ; and this must be regulated by the circumstances of the employment during the day. From six to eight hours form a proper medium. The want of sleep, beyond a certain time, evidently consumes the spirits, and debilitates the whole frame.

Nor can it be easily enjoyed for some time where the want of it takes place to any great degree. The temper also particularly suffers from it. Too much sleep is no less prejudicial to the health. The body becomes by it torpid and inactive, and nervous complaints are the consequence. Children, however, should be indulged to any degree of it, as no stupor will ensue with them. So gratifying is sleep, that it gives relief to the sharpest afflictions, and may be considered as the chief solace of the unfortunate and wretched.

The hour of going to bed ought never to be too late, and on first going to bed, sleep is always sounder and most refreshing

Towards the proper enjoyment of sleep, many circumstances are necessary.

1. The early retiring to bed.
2. Not oppressing the stomach, or giving the powers of digestion too much to do.
3. The proper posture of lying in bed ; which should be on one side, with all the muscles as much as possible relaxed.
4. The proper temperature of the body ; and to pre-

serve its due heat, a sufficient quantity of clothes should be used.*

5. That all pressure from clothes, and other articles of dress, should be removed before going to bed.

With these precautions sleep will be properly enjoyed, the strength of the body renewed, and the faculties of the mind and body rendered spirited and active, so soon as the return of day arrives.

6. *Of the Secretions and Excretions.*

The aliment we take in, it has clearly been seen, in consequence of the process of digestion, is prepared into nourishment, and thus converted to supply the different wants of the system. That part which is not convertible for the supply of these wants, passes off; and the nourishment itself, when it has supplied its

* We do not recommend either curtains or tester, &c. to the bed, especially during the summer—by the help of these, those who might have the benefit of the free circulation of air in a large room, very ingeniously contrive to reduce it to a small closet:—chimney-boards and window-curtains are also inadmissible in a bed-room.

The best bed is a well stuffed and well curled horsehair mattress, six inches thick at the head, gradually diminishing to three at the feet, on this another mattress five or six inches in thickness; these should be unpicked and exposed to the air, once every year. An elastic horsehair mattress, is incomparably the most pleasant, as well as the most wholesome bed.

Bed-rooms should be thoroughly ventilated by leaving both the window and the door open every day when the weather is not cold or damp—during which the bed should remain unmade, and the clothes be taken off and spread out for an hour, at least, before the bed is made again.

Of all the customs of clothing, the most extremely absurd is the usual arrangement of bed-clothes, which in order to make the bed look pretty in the day time, are left long at the head, that they may cover the pillows; when they are turned down, you have an intolerable load on your lungs, and that part of the body which is most exposed during the day, is smothered at night, with double the quantity of clothes that any other part has.—*Dr. Kitchiner.*

different offices, becomes unfit to be longer retained, and is carried out of the body in a changed state. This forms the subject of the secretions and excretions of the body; a subject of the first importance to the well-being of the system, and on a proper attention to which the success of the physician, or the art of healing, depends.

Thus, from the bowels is discharged the mass of thick feculent matter, the refuse of the food.

By the kidneys passes off the more watery, oily, and saline parts, the retention of which would produce acrimony in the habit.

By the skin is evacuated a similar discharge, but of a still more subtle kind, in consequence of which a tendency to putrefaction in the habit is prevented. These are the three great outlets of the body, by which its health and well-being are preserved. Disease is never formed without a change in the state of these discharges, and never removed without the increased action of one or other of them. This forms a cue for the conduct of the physician, in his treatment of disease; and it is in following the steps of nature in this respect, that his success in his art, or in the proper treatment of disease, will depend.

With most individuals, a preference in favour of one discharge more than another seems to take place, and this should be always inquired into and studied.

1. *Discharge by Stool.*

The regular and moderate state of this discharge is of the first importance to health. It should neither be expelled too quick, after the reception of food nor should

the latter be retained too long, after the nourishment is separated from it. A stool once a day is mentioned as the regular and standard rule; but the quantity and quality of the food must at the same time greatly determine this. Hence it will vary in different persons, whose health is equally good, as connected with their special circumstances. Some peculiar constitutions may be noticed, that are known only to evacuate once in a week or fortnight: but this peculiarity can only be barely noticed, and does not admit of any explanation; though a corruption of the fluids, in the end, must be the consequence of this slow state of the bowels, in such constitutions; and, when attacked by disease, the heated mass of fluids must render the morbid cause much more active.

A warm atmosphere and indolent life are unfavourable to this discharge; and wherever it is irregular, it should be carefully counteracted by an uniform practice of going to stool daily at a certain hour, either of the morning or evening. Much depends on the diet for the regulating of this discharge: a dry hard diet is always unfavourable to it; a moist and soft one is the reverse: and, by observing these two extremes, a proper regulation may so be formed in this respect, that the bowels may always have an uniform and regular action, in clearing themselves of the contents. Sometimes, however, costiveness is an hereditary disease, or it may be brought on by weakness, in consequence of previous affections debilitating the system. These causes are to be attended to, and as far as possible corrected.

With respect to the appearance of the matter discharged, this should never be too dry nor too liquid. In

the strong and athletic, who use much exercise, it often acquires this very hardened state, without any injury to the general health; and thus the whole of the nourishing part would seem to be completely taken up in such habits. A hardened state of the excrement often induces painful headaches, and not unfrequently fever. It is very prejudicial to all those who are subject to stomach complaints, particularly the hysterical and hypochondriacal constitutions. The delay of this natural discharge, or counteracting the efforts when actually taking place, is attended with serious and often fatal consequences. By resisting the action of the bowels, the canal becomes distended with its contents; a pressure of the blood-vessels takes place; and the piles, a painful and loathsome disease, is apt to be formed. The natural inclination once lost, does not recur for some time, and the bowels are provoked in vain to resume their action till another day.

Looseness is again generally the effect of immoderate eating; part of the food not coming to be digested, passes off in this way, and nature thus relieves herself of a load she has properly no use for. Thus, great eaters are generally thin and emaciated, and possess less strength than those who take a moderate meal, where it is properly concocted. The stools, then, may be considered as enabling us to form a proper judgment of the quantity and quality of the aliment, as also of the state of the digestion and assimilation.

To render the digestion complete, and thus produce a proper and healthy discharge by stool, many circumstances require to be attended to.

1. The first is a proper proportion of exercise, to

invigorate the system, and promote the force of the circulation.

2. The second is a due quantity of drink, sufficient to dilute our solid food.

3. The proper choice of our food; neither too solid on the one hand, nor too diluent on the other; and so prepared as to answer the same purpose.

4. Avoiding excess of sleep, as promoting too much the discharge by the skin, at the expense of that by the bowels.

2. *Discharge by Urine.*

This discharge is meant to take place oftener than the former, and between it and the skin a balance seems to prevail in the quantity poured out. The fluid separated here is of a thin straw colour, somewhat yellowish, with a white loose sediment, and, on being first discharged it has no disagreeable smell: all which marks show whether the habit producing it is healthy or not. This discharge is much affected by the influence of constitution, climate, and season. Some constitutions naturally produce a greater quantity than others. In warm climates it is much less than in the colder regions; and, in the same way, the approach of summer diminishes its quantity, which is increased again on the return of winter. It is only from the morning appearance of this fluid that we are to judge of the state of the individual's health, and not from the accidental change to which it is subjected in the course of the day; for no fluid is so apt to be varied in its appearance and qualities from casual circumstances. The prognostications by this

fluid have opened a wide field for empiricism, and water doctors have been noted, at every period of civilized society, for imposing on the credulity of mankind. There is no doubt that some judgment may be drawn from this fluid, at times. The urine of hypochondriacs, and also of hysterical patients, we know to be remarkably clear and limpid, and likewise in great quantity. In weak habits it is found to be a good deal foamy, and to retain its froth for a considerable time. Whatever stimulates the system most, occasions the urine to be of a red colour, and to deposit a brick-coloured sediment; and even the colour of the urine may be considered as indicating, according as it is high or otherwise, the degree of vigour in the system. The want of a sediment entirely, after long standing, is a proof of great weakness.

It is not possible to ascertain, with precision, the exact quantity of this discharge daily, but two circumstances will tend much to determine it: the quantity of drink used, and the degree of perspiration. Where the discharge is deficient, it may always be promoted by the use of thin diluent liquids, with moderate exercise, and the addition of mild acids in diet; and as many diseases arise from this discharge being too deficient, it ought to be carefully promoted in all such cases. Vigour of habit is always attended with a moderate discharge of this excretion; relaxation and weakness show a preternatural quantity of it. Exercise tends also to lessen its quantity, while cold and moisture increase it.

A morbid discharge of urine forms a peculiar disease, termed *diabetes*, which proves generally of a fatal tendency. The parts, also, connected with this discharge, are more liable to be affected by disease than any other.

Hence we cannot be too careful in attending, not to retain it too long when once solicited, nor to make it too often before the bladder is fully distended. By the former, inflammation and distension of the bladder is apt to arise; by the latter, the organ becomes narrowed, thickened, and contracted, and loses part of its conical and natural size. Retention, by occasioning a deposition of sediment, is apt to lay the foundation of calculus, or stone.

3. *Discharge by the Skin.*

The present discharge differs from the two former, in being uninterrupted, and may be considered as equally important. Day and night it is constantly discharged through innumerable pores, which are the openings of small vessels, every where spread on the surface; three thousand of which occupy no more space, according to computation, than one inch. By this discharge we are freed from all impurities of a thin acrid nature, and none of them have such an immediate effect as this, on the general health and spirits. From three to four pounds is the medium calculation of this discharge. It is most abundant during the night, as being favoured by a calm uniform circulation, and the greater heat and mildness of the atmosphere.

The first mark of every febrile disease is the suppression of this discharge; and the first means of relief, whether induced by nature or art, is the opening of this discharge. It has also a powerful influence on the state of the stomach, and between it and this organ alternations of health and disease show themselves. A regular

and vigorous perspiration is a sure mark of health, and by attending to the state of it, we shall sooner detect and redress derangements of health, than by any other criterion we can go by. But this discharge, though so necessary to the well-being of the body, is not so uniform as the others. It differs at different times of the day, in the same individual, and is not equally active at all hours. A full stomach lessens it; but when digestion is completed, it is most abundant. The season also, as observed, has great effect upon it. A warm season or climate promotes it in a rapid manner, and checks that by the urine and bowels in an equal proportion. In order to keep it as regular as possible, attention should be paid both to the state of clothing and the nature of our aliment. The first should preserve us as much as possible in an uniform atmosphere, and the second should be of that nature to keep up a proper vigour of circulation, as being necessary to promote it. Hence all circumstances that tend to interrupt it should be avoided; and those enumerated as effecting this, are,

1. Violent pain. 2. Obstruction of small vessels from oily matters attached to the skin. 3. Severe cold, especially at night; and the interference of other objects, as the process of digestion, &c.

From the importance of this discharge, it should claim with every individual, the most particular attention; and all those means by which it may be promoted should be constantly held in view. These means are, extension of the muscles of the different parts of the body, especially of the extremities, whether by simple movement or expansion of them, or by means of bodily exercise: by this action the circulation of the fluids is

promoted, and thus their determination to the skin accelerated. The warm bath has here a similar influence, and answers the same effect, by what may be considered as a passive operation. The use of mild sudorifics is equally efficacious, particularly warm diluent fluids; but all such expedients, except exercise, are more proper for removing states of disease, where this discharge is interrupted, than for merely preserving health.

Sweat differs from the usual perspiration, both in the nature and quantity of the matter thrown out. Its effect, therefore, is always to weaken; and, though a useful means of carrying off most acute maladies from the body, yet, if carried too far and rendered habitual, it is apt to lay the foundation of consumption, and other evils of a serious nature. It may indeed, however, be considered as a proper outlet for purifying the habit, and much skill is requisite to manage it properly with this view. The removal from too heated to too cold an atmosphere, is always dangerous, as suddenly checking perspiration. But custom will do much in this respect, in preventing our suffering on this head. No practice is so proper, as a preventive from vicissitudes of heat and cold, as the daily washing with cold water. By this the body becomes braced and hardened; and it should be a habit early begun and regularly continued, in order to induce the good effects to be expected from it. When we consider the consequence that sleep has in relaxing and debilitating the body, the morning is pointed out as the proper time for this operation.*

* Neglecting to observe the Levitical law of ablution conduces, probably more than any other cause, to sickness. A bath, warm

The nature of the food cannot fail to have a sensible influence in the quantity of the discharge by the skin. The more thin and attenuating the aliment is, the more will it be of a nature fit to pass off by this excretion. Gross oily food, and such as is of a viscid nature, from its not passing off readily in this way, too often lays the foundation of cutaneous diseases, by favouring obstructions of the small vessels of the skin.

All the depressing passions, by lessening the vigour of circulation, lessen also the evacuation from the surface, so necessary to the health of the frame; while the enlivening ones produce a contrary effect.

Exercise and cleanliness are equally useful in this view. The rules, in respect to this discharge, may be shortly summed up: to keep the skin clean and moist, by means of attention to dress, exercise, and aliment; so that the quantity perspired will require a change of linen every twenty-four hours.

or cold, should be taken once or twice a week, particularly in summer; when, however, this is inconvenient, washing the body with a sponge will answer as a substitute. But a *pediluvium*, or rather half bath, should be practised every day in all seasons of the year. Thomas Jefferson, in answering some queries respecting his habits, observes, "I attribute my not being subject to *colds* to washing my feet in cold water every morning, which I have done for sixty years."

To preserve the skin in a healthy condition, those who wear flannel should change it every night on going to bed, and wipe the body with a coarse towel; as it becomes saturated with the perspiration of the day, which, if the flannel is not changed, is reabsorbed, and thereby the action of the skin weakened and the whole system vitiated.

When it is known, that at least five-eighths of the amount taken into the body is discharged through the skin by perspiration, it will readily be perceived that too much care cannot be taken to keep it in proper condition to perform the office required.

Saliva.

As the digestion of the food is accomplished chiefly by the powers of the stomach, so this process is favoured by its mixture with certain fluids in its passage to the organ. The chief of these fluids is the saliva, or secretion from the salivary gland, known by the name of *spittle*. The quantity of this discharge daily thrown into the stomach, is very considerable; and being evidently necessary to the preparation of the aliment, it should not be uselessly thrown away or expended. Hence the custom of using tobacco, particularly smoking, which occasions such a waste of this liquor, ought to be indulged only under strict limitations.

In constitutions where the fibre is lean and dry, its use must be attended with much injury to the general health; and by the narcotic effects of the plant, besides its irritation on the saliva, the injury will even be increased by it. But when the habit, again, is full of juices, as in the corpulent and phlegmatic, and where the acme of life, or middle age, is at the same time past, then these inconveniences from taking tobacco will by no means so readily occur: on the contrary, if moderately indulged in, it will be useful, by dissipating part of the redundant fluids; and its utility will be even greater, if indulged in to counteract the effects of a moist, cold atmosphere. The best time to smoke is when digestion is complete, not immediately after a meal; and the process should be favoured by the use of diluent liquors, in the time of it, to supply the waste that is taking place.

Of the Nasal Mucus.

This discharge is intended properly to moisten the surface of the nostrils, and preserve them in that state which is necessary to make them convey the impressions they are intended to receive. An additional stimulus, therefore, such as snuff, to render this more abundant than it ought to be, can only produce irritation, and the consequences which must arise from such a cause. The greater number of snuff-takers, therefore, do themselves much injury by this practice; and it is only in those cases where an artificial issue or drain from the head is wanted, that it ought to be indulged in. Hence, in moist habits, subject to defluxions in the eyes, or pains of the head, a moderate use of snuff will be of much advantage; while in the irritable, weak, and consumptive, it will give rise, from its peculiar narcotic stimulus, applied to a situation so near to the brain, to alarming diseases. It has been considered in many cases as a cause of palsy, and used to be mentioned as such, in his lectures, by the late celebrated Dr. Cullen. But while deterring his readers from its use, the box lay generally before the Doctor, who jocularly remarked, in spite of the danger of this disease, he found himself compelled from habit to indulge the practice, which he generally reprobated at the same time in strong terms; a proof of the little influence of good advice on the mind, where danger does not at the moment press upon us. Another bad effect of snuffing, is that of stopping the nostrils; it impedes the respiration, and gives the lungs more to do. By passing also into the stomach, it is the

source with many of much uneasiness, pain, and flatulence in that organ. From this view, reason will point out what is best; habit and gratification, what is most pleasing.

Of the Secretion of the Ear.

This secretion renders the organ, when in moderate quantity, more acute for receiving the impressions it is intended to convey. But it sometimes hardens and accumulates, so as to render deafness the consequence. It then requires to be washed out with soap and warm water, and oil used as a substitute, to prevent the same accident happening again. Where the secretion, on the contrary, is thin and aerid, daily washing with cold water will be of service. Should insects get into this cavity, oil forms the proper remedy for destroying them.

Of Hæmorrhage.

As the blood is the most elaborate of all the fluids, so it is the most useful for preserving the health of the system. The loss of it is therefore more severely felt than that of any other; and this loss never takes place but as a consequence of disease. In the male, blood is apt to appear with piles, and also from the nose. In both these cases it is dangerous to repress it suddenly; for though weakening, in the mean time it is either connected with a general fulness of habit or of the part. Both these states must be removed before the discharge can be safely got the better of. Nature, therefore, should be allowed to take her own course, and only

prevented from going to extremes. The same may be said of the menses in women; and to them the same observation equally applies.

Of Retention of Milk.

The same delicate attention that is necessary to the former discharges, is equally essential here. This secretion, in a nursing female, is readily affected by the slightest causes, in respect to diet, situation, or passions of mind. The consequence of this is, that a foundation is not only laid for morbid affections in the organ; but the general health is apt to be deranged by the influence it possesses with the whole of the system.

GENERAL REMARKS ON TEMPERAMENTS.

[Some of the remarks of Dr. Turnbull were omitted in the order in which they appeared, under an apprehension that the entire would carry this volume to a greater extent than was desirable for a popular Manual. But as the small type used in this edition embraces more matter, in a given number of pages, than was calculated upon, the passages rejected are inserted in this place. The table of contents, which will be prefixed to the volume, will prevent any particular inconvenience arising from the transposition.]

One of the causes of different temperaments may be referred to *difference of irritability*, the peculiar inherent property of the muscular fibre. Thus in the choleric, the muscular fibres are excited to action by the slightest stimulus, while in the phlegmatic, the muscles contract but slowly, and are only brought into exertion by the most powerful means.

Even the proportion and nature of the blood has a manifest influence on the constitution; and a highly assimilated blood, by its greater stimulus, will render the exertions of the solids stronger and more violent.

When these several causes are maturely taken into review, though an original and unalterable predisposition to the temperament takes place, yet it is clear, in the course of life, from the action of these causes, the temperament, though not fundamentally changed, may be considerably modified; and this modification arising from different circumstances, the latter fall next to be taken into consideration.

The first of these circumstances apt to modify the constitution or temperament in the course of life, is a *difference of regimen*. Hence we find a free use of animal food, by exerting the body in the highest degree, and imparting, as it were, an unusual stimulus and excess of vigour to it, occasions all the senses to be proportionally enlivened, and even a degree of ferocity to prevail, which is a leading feature of character in all the carnivorous animals. In the same proportion vegetable food diminishes the action of the system, and lowers also its irritability and sensibility in a corresponding degree.

The second circumstance possessing this constitutional influence, is *education*. Indeed, at the earlier periods of life, it is plain its effects cannot fail to be extensive in modifying the habits and manners of man; and it must ever have considerable power over the mind, or the thinking part of the system, which will thus communicate itself to the corporeal part.

The third circumstance, and a very leading one, is

climate. Thus, the warm climates naturally produce an acuteness and sensibility in their inhabitants, while the cold and foggy regions are generally found the abodes of dullness and insipidity. It is from this fact the Greek proverb justly arose, of applying the character of being born in Bæotian air, as a mark to denote stupidity, from the moist inhospitable atmosphere of that country.

The next circumstance is the *fortune* of the *individual*. Every one is sensible what a difference the enjoyment of luxury must make on the habit, compared with the opposite state, where it is harassed by the evils of life, and pressed by the hard gripe of poverty.

The last circumstances that claim enumeration, and, which may be comprised together, are, the *age*, *society*, and *profession*. That each of these has a considerable influence, cannot be doubted. So strong indeed is the influence of the first, that we find the dispositions of the sanguine and choleric, as age advances, gradually decline. The second has no less, from its particular effect in modifying the disposition and manners; and the third is equal to the other two. Professional diseases which are so frequent with artificers, show the leading power of this circumstance over the state of the constitution.

Such is a short sketch on the subject of constitutions or temperaments, which has been so largely treated by physicians. It is clearly one on which every individual, anxious for his health, ought to bestow the fullest attention, and to be able himself to distinguish the leading features of his own constitution or habit. By this knowledge he will be enabled to regulate with precision his

mode of life, in such a manner as to avoid, on many occasions, the causes of disease, and by this knowledge he will likewise be well acquainted with what diseases he is most liable to be attacked.

Climate.

Climates may be divided into three, the *warm*, the *temperate*, and the *cold*. The first, seated between the tropics, forms what is called the Torrid Zone. Under this climate the heat is always excessive, and often indeed unbearable, particularly when the sun passes perpendicularly over these regions.

The temperate climates include that space which extends from the Tropic to the Polar circle. Here the heat is more supportable, and lessens in a gradual proportion as it approaches the Circle, so that a great variety prevails in the climate of the countries included within this division.

The cold climates are those placed at the two extremities of the globe; a dreadful situation for their inhabitants, where the sun for months never shows itself in the hemisphere, where the earth is covered with perpetual snow, and the sea with ice; for, every thing here in a fluid state becomes immediately solid, and the degree of cold too often benumbs at once the springs of life.

It is only in the second division, or the temperate regions, that a variety of climate may be said to prevail, and this variety may be said to be increased by the gradual change or return of the seasons.

The best situation for the human frame is that where

it enjoys an atmosphere moderately heavy and elastic, being neither that rarified air found in the more elevated regions, as in mountaineous countries, nor that dense thick atmosphere which hovers over low marshy grounds. By attending to these observations, he who is able to choose his own situation may guard against all the inconveniences and dangers that arise from the existence of a too pure or too loaded atmosphere.

Of Aliment.

Aliment, is a subject of much importance. By this term is understood whatever is taken into the stomach, and passes of course into the system, for the purpose of nourishment, or for the support of the body; and, in common language, this we know by the name of food and drink. All substances under this denomination must undergo a certain preparation before being received into the system. Thus, they are first taken into the mouth, and there divided by the action of the teeth and muscles of the jaws. By this operation, named mastication or chewing, they are broken down and mixed with a certain quantity of liquor or saliva before they pass into the stomach. Even in their descent into that organ some additional fluids continue to be pressed into and blended with them; and, on their arriving there, they become thinned with the gastric juice, a peculiar liquor, secreted from the stomach, which is the most powerful solvent of all elementary matter. After experiencing their necessary changes in this organ, by its action, they are transmitted next to its under orifice or the pyloric,

where they pass out to the intestines or bowels; and here, in their course, they meet with the bile and various other secreted fluids. In this progress the different parts of the aliment are separated. Those proper for the nourishment of the system are taken up by certain vessels called lacteals, and converted into a thick milky liquor termed *chyle*, which collects into one reservoir, the *thoracic duct*, from which it is conveyed into the blood, and thus distributed through every part, for the nourishment and support of the body. The remainder of this aliment, not fit to be converted into chyle, passes onwards through the long circuit of the bowels till it comes to be discharged in a useless and effete state; and along with it is discharged from the body also, part of the secreted fluids which have been employed in making the requisite alteration upon it, and in effecting the separation of its different parts.

All aliment consists either of a vegetable or animal nature. Vegetable aliment, it is probable, was the first food of man, in the choice of which it follows, he would be originally led to taste and smell, and afterwards directed to it by experience. At that period the salubrity of aliment would not enter into his review; neither, perhaps, did the simple life of nature require it: but, as refinement took place, and a deviation from this first order of things proceeded, animal food, from observation perhaps of the carnivorous tribes, would come to be introduced by him, and we find accordingly, that even a variety of it became very early a principal support of life.

Animal Food.

Fresh meat is to be considered as the most wholesome; and whenever it is dried or prepared by salting, it loses its nourishing quality in a certain degree, and becomes more unfit to supply the waste and preserve the health of the system.

The meat of tame and domesticated animals, is also preferable to those that are wild and live in a state of nature. They are more juicy and tender in their fibres, while the others are more rigid and dry, and consequently are more indigestible.

The form of preparing the meat, has also a necessary relation both to its digestibility and degree of nourishment.

In the raw state, although some animal substances are eaten, yet, it is not the form in which they are now the most agreeable. They are, therefore, prepared by the application of heat and moisture in various ways, or what is known by the name of *cookery*.

One of the first of these ways is by *boiling*. By this process the meat is deprived greatly of its nourishing quality, or of its *jelly*, which is introduced into the fluid or soup. Wherever it is wished to introduce a quantity of nourishing matter quickly into the system, this conversion of it into soup is preferable to any other mode of cookery; but, in ordinary health, taken in this form, if solely trusted to, it gives the stomach too little to do, and the meat itself is left in that indigestible state, as to be rendered unfit for repairing the waste of the body, or

conveying the proper stimulus which animal food is intended to produce.

Roasting is the form in which animal food is most relished, and by this form it is both rendered highly palatable, and its nourishing qualities are at the same time abundantly preserved. The outer parts, however, exposed to the fire, acquire an empyreumatic taste, and, from being also more dried, are less digestible, and sit heavier on the stomach, than the internal particles of it, when this form of cookery is used.

Baking, the next mode, possesses most of the advantages of roasting, with the addition that, by preventing evaporation from the surface, in consequence of the crust that covers it, its nourishing parts are better preserved than in any other form. But, as it is apt to sit heavy on some stomachs, from the greater retention of its oils, it requires the additional stimulus of spices and aromatics to render it lighter, or increase the powers of the stomach to digest it.

Frying is a mode in which a somewhat similar operation to baking takes place. Part of the substance of the meat is at first melted down; but a crust is soon formed by the fire over the rest, which preserves it and renders it soft and mellow. The abundance of fat or oily matter used in this operation is the only objection to it, by rendering it as food somewhat indigestible; and the same attention to increase the powers of the stomach by seasoning, is necessary here as where baking is employed.

Fruits

Cherries, from their strong acid, are peculiarly antiseptic. While they are useful, therefore, in all diseases where a tendency to putrescency appears, or where this state has actually commenced, they are equally injurious in health. The sweeter kinds are less hurtful than the others; but, it may be observed, that cherries, like all other stoned fruits, possess something peculiar in their nature, which renders them not so salutary to the stomach as other fruits, even independent of the general principles they possess in common with other fruits. In the use of stoned fruits, much attention should be paid to avoid the swallowing of the stones, as from this cause the most fatal effects have at times arisen.

Plumbs are liable to the same objections with the former, but not in so great a degree. They should be used, however, only when full ripe.

Tamarinds yield, from their pulp, a highly grateful acid. In the warm climates it quenches thirst and allays heat, but is here only used medicinally.

Peaches are a salutary kind of fruit, of an attenuating nature, and therefore useful in obstructions and bilious disorders. They are best in their fresh state, and their kernel, as being a grateful bitter, should be eaten along with them. This fruit is of various kinds; but the thin downy-skinned species is the best.

Apricots is a fruit not so healthy as peaches, from its tendency to the acid fermentation; but in their ripe state, they are a cooling antiseptic.

Pears are generally somewhat hard and indigestible. They tend also to produce flatulence ; even the sweetest and most saponaceous kinds are inferior to the next fruit, or,

Apples ; which are an aromatic fruit, laxative in their medical effects, and in general cooling and antiseptic. They attenuate also viscid phlegm, and are recommended in pectoral affections. The various species differ in their degree of aromatic principle, in their degree of acidity, and also in their proportion of juice. According to their possession of more or less of each of these principles, their medical effects are to be judged of. Their kernels and those of the former fruits are to be considered as correctives of the fruit itself, and rendering it more salutary to the stomach.

Quinces are a combination of acid and mucilage, and, therefore, useful antiseptics, especially in dysentery. Their pulp is, however, somewhat indigestible.

The lemon, orange, and fruit of a similar kind, possess a grateful juice, more or less acid, with an aromatic bitter rind, and a powerful essential oil, strongly astringent and heating. It is the juice only that is used in diet ; the other parts are occasionally used in medicine. The acid of these fruits, termed the *citric acid*, forms the proper specific for the scurvy, and is also the best corrector of vegetable narcotic poisons.

Currants, are a fruit of a nourishing quality. Their juice is an agreeable acid, not unlike that of the lemon. They are of an emollient and laxative nature.

Gooseberries are a cooling refreshing fruit.

Figs are a fruit highly nutritive.

Grapes and strawberries are both very wholesome.

They tend to promote all the evacuations, and are laxative without inducing any apparently weakening effects. The quality of the former is much varied by soil and climate. The sweetest kind are the safest to be used. The latter are supposed to possess qualities against the stone, and are much recommended with this view. The wild strawberry has the most agreeable flavour, and is perhaps, the best of the whole species.

Bread.

In making good wholesome bread, many circumstances are necessary to be attended to.

1. The first is, to select the best species of grain for the purpose; and wheat has been generally preferred in this country without any mixture.*

2. The age of the grain, or rather flour, when used; for, the older it is, the less tenacious.

3. The third lies in the proper fermentation and baking.

4. The fourth is the quality of the water or fluid employed for mixing it.

If these circumstances are attended to, the bread then formed will be light and porous; for the sponginess of it is to be considered as a test of its proper fermentation and the entire extrication of its fixed air. Such bread also will thoroughly dissolve in water, without showing any marks of visciditv.

The more that bread is formed different from these

* As Indian corn is not raised in England, the author was probably ignorant of its dietetic virtues. A mixture of flour made of this grain with that of wheat is known to make a more wholesome bread, especially for those of costive habits than wheat flour alone.

rules, the more indigestible it will be found, and will, with invalids, be apt to lay a foundation of stomach complaints and those other ailments which are the consequence of imperfect digestion.*

* The French manner of making bread is deemed by that nation, and others in the habit of using it, preferable to any other. It is very light and of course easily digested. This arises from the severe fermentation the dough is made to undergo previously to baking. The material made use of for this purpose is leaven, which constitutes, it is believed, about a fourth part of the batch. The shape of the French loaf exposes a greater surface to the heat than the common round loaf, and consequently causes it to be more thoroughly baked. An erroneous opinion prevails in New-York, that the twisted loaf, made by some of our bakers, is manufactured in the French manner; whereas it is directly the reverse. That kind of bread undergoes little fermentation, and consequently is viscid and heavy.

APPENDIX.

PEPTIC PRECEPTS.

EXTRACTED FROM DR. KITCHINER'S WORK ON
HEALTH.

Constipation.

To humour that desire for the marvellous, which is so universal in medical, as well as in other, matters, the makers of *aperient pills* generally select the most drastic purgatives, which operating considerably in a dose of a few grains, excite admiration in the patient, and faith in their powers, in proportion as a small dose produces a great effect, who seldom considers how irritating such materials must be, and consequently how injurious to a stomach in a state of debility, and perhaps deranged by indulging appetite beyond the bounds of moderation.

Aperient medicine does enough, if it increases the customary evacuation, and does too much, if it does more, than excite one additional motion.

Bowels which are forced into double action to-day, must, consequently, be costive to-morrow, and constipation will be caused by the remedy you have recourse to to remove it; this has given rise to a vulgar error, that the use of even the mildest laxative is followed by costiveness.

Habitual costiveness is not curable by drugs alone, and is most agreeably corrected by diet and regimen.

A little attention to regimen will generally prevent it, a simple laxative will suffice to remove it, and neither will be often necessary, for those who observe a deobstruent diet, take proper exercise in a pure air, sufficient liquid food, and eat freely of butter, salt and sugar.

The peculiarity of most constitutions is so convenient, that almost all costive persons, by attending to the effects which various things produce upon their bowels, may find, in their usual food and drink, the means of persuading their sluggish viscera to vibrate with healthful celerity.

Abstinence.

Abstinence is the easiest, cheapest, and best cure for the disorders which arise from indigestion or intemperance.

To let the stomach have a holiday occasionally, *i. e.* a liquid diet, of broth and vegetable soup, is one of the most agreeable and most wholesome ways of restoring its tone.

If your appetite be languid, take additional exercise in a pure open air, or dine half an hour later than usual, and so give time for the gastric juices to assemble in full force; or dine upon fish or Chinese soup, *i. e.* tea.

If these simple means are ineffectual, the next step, is to produce energetic vibration in the alimentary tube, without exciting inordinate action, or debilitating depletion; and to empty the bowels, without irritating them.

Strong Food.

The strong food, which the strong action of strong bodies require, would soon destroy weak ones; if the latter attempt to follow the example of the former, instead of feeling invigorated, their stomachs will be as oppressed, as a porter is with a load that is too heavy for him, and under the idea of swallowing what are called strengthening nourishing things, will very soon make themselves ready for the undertaker.

Some people seem to think, that the more plentifully they stuff themselves, the better they must thrive, and the stronger they must grow.

It is not the quantity that we swallow, but that which is properly digested, which nourishes us.

A moderate meal well digested, renders the body vigorous; glutting it with superfluity, not only oppresses the system, but produces all sorts of disorders.

Distance between Meals.

Those who take no food between an early breakfast, and a late dinner, for fear, as they term it, of spoiling the latter meal, generally complain of flatulence, languor, lowness of spirits, &c. (and those who are troubled by a cough, have often a paroxysm of it,) for the hour or more before dinner; and heartburn, &c. after it: the former arising from fasting too long, the latter from indulging an appetite over excited.

The languor of inanition, and the fever of repletion, may be easily avoided by eating a luncheon, solid and nutritive, in proportion as the dinner is protracted, and the activity of the exercise to be taken in the mean time.

Indigestion.

It is at the commencement of decline, *i. e.* about our fortieth year, that the stomach begins to require peculiar care and precaution. People who have been subject to indigestions before, have them then more frequent and more violent; and those who have never been so afflicted, begin to suffer them from slight causes: a want of attention to which too frequently leads to the destruction of the best constitutions, especially of the studious, who neglect to take due exercise.—*Dauberton on indigestion.*

He who has not by that time (age of forty) learned to observe the causes of self-disorder, shows little signs of wisdom; and he who has carefully noted the things which create disorder in himself, must by his own experience possess much knowledge, that a physician at a pop visit ought not to pretend to.—*Domestic Management.*

Suspended Animation by Drowning.

Every person should be acquainted with the treatment, recommended by the Humane Society, for the recovery of persons apparently drowned, which is as follows:

1. Convey the body carefully, with the head and shoulders in a raised position, to the nearest house.*

2. Strip the body, and rub it dry; wrap it in hot blankets, and place it in a warm bed in a warm chamber.

3. Wipe and cleanse the mouth and nostrils.

4. In order to restore the natural warmth of the body, move a heated covered warming-pan, over the back and spine; put bladders or bottles of hot water, or heated bricks to the pit of the stomach, the arm-pits, between the thighs, and to the soles of the feet; foment the body with hot flannels; (if possible, immerse the body in a warm bath, as hot as the hand can bear, as this is preferable to the other means of restoring warmth;) rub the body briskly with the hand; do not, however, suspend the use of the other means at the same time.

5. In order to restore breathing, introduce the pipe of a common pair of bellows, (where the apparatus of the Humane Society is not at hand,) into one nostril, carefully closing the other and the mouth: at the same time, drawing downwards and gently pushing backwards the upper part of the wind-pipe, to allow a more free admission of air. Blow the bellows gently, till the breast be a little raised: the mouth and nostrils should then be set free, and a moderate pressure made with the hand upon the chest; repeat this process till life appears

* Great care should be taken in removing the body, that it be not bruised, or shaken violently, or in any way roughly handled, nor carried on the shoulders with the head hanging down, nor rolled on the ground, on a barrel, &c.; such methods, formerly resorted to with the view of causing the water to flow out of the stomach, are now considered highly injurious.

6. Electricity to be employed early by a medical assistant.

7. Inject the stomach by means of an elastic tube and syringe, with half a pint of warm brandy and water, or wine and water.

8. Apply sal volatile or hartshorn to the nostrils.

Chronic Rheumatism, and Herpes, or Cutaneous Eruptions.

These complaints are so common, are often so difficult to conquer, and at the same time have been the subjects of so much quackery, that we are induced, from experience of their effects, to submit the following remedies :

Beer for the cure of Chronic Rheumatism.

10 Ounces of Sarsaparilla,		5 Ounces Sassafras root,
5 do. Lignum Vitæ,		10 do. Liquorice root,
		10 Drachms Senna.

The whole to be cut fine, and thoroughly boiled, making 5 gallons. To which add a sufficient quantity of hops, molasses and yeast. This composition makes a very pleasant beer, which may be drank freely at all times in the day. If this quantity should prove insufficient renew it till cured. Take at the same time, say two tea-spoonfuls of white mustard seed occasionally before meals.

This prescription was obtained from a celebrated French physician, formerly of New York. All medical writers who treat of the complaint, as well as practitioners in general, recommend the above articles; but the English and American physicians do not, it is be-

lieved, commonly prescribe so large a quantity as the French. Besides, a decoction of those roots or woods are used, the mawkishness of which to most persons is so disagreeable as to prevent patients from taking a due quantity, if it were directed.

The famous medicine discovered in France, called *Rob*, which has proved so efficacious in rheumatic and mercurial complaints; is known to be chiefly composed of the above ingredients; which in most cases produce the same effects, in the pleasant and cheap mode here prescribed, provided a sufficient quantity be taken.

Herpes or Cutaneous Eruptions.

Herpes is derived from *herpo* (Greek) to creep; because it creeps and spreads over the skin. It consists of various species which require different treatment. The two principal of which are,—first, what is called *dry tetter*, which appears indiscriminately in different parts of the body, itching very much, though not otherwise troublesome. When scratched, the epidermis or scarf-skin scales off in the form of fine bran.

For the cure of this kind, dilute an ounce of sulphuric acid (oil of vitriol) in a quart of rain water. If a junk bottle be used, it should not be made full, as the composition requires to be well shaken; and in this case, of course, reserve a part of the oil of vitriol. Should the mixture, at first, prove too pungent, it may be weakened by adding rain water. Rub this on the part affected at least twice a day, going to bed and rising. Make use even of a stiff hair brush for this purpose. The skin becoming, in most cases, sufficiently insen-

sible to bear this operation. In about ten or fifteen days the cure will generally be effected.

The second kind, above referred to, generally commences on the face, afterwards spreading to the neck and other parts of the body. This species is commonly called *ring-worm*. For its cure use the following composition :

- 1 Ounce of white precipitate of mercury,
- 1-2 do. red do.
- 1-4 do. Venice turpentine,
- 4 do. hog's lard.

Rub the three first mentioned ingredients in a mortar, and then add the hog's lard. For a quantity sufficient for a single case, an apothecary can reduce the prescription.

Proportion of Alcohol in different liquors.

The term alcohol is applied in strictness only to the pure spirit obtainable by distillation and subsequent rectification from all liquids that have undergone vinous fermentation, and from none but such as are susceptible of it. But it is commonly used to signify this *spirit* more or less imperfectly freed from water, in the state in which it is usually met with in the shops, and in which, as it was first obtained from the juice of the grape, it was long distinguished by the name of spirit of wine.

As alcohol is much lighter than water, its specific gravity is adopted as the test of its purity. Fourcroy considers it as rectified to the highest point when its specific gravity is 829, that of water being 1000.

The following table exhibits the proportion of alcohol, specific gravity .825 at 60° F., by measure, existing in 100 parts of several kinds of wine and other liquors; extracted from Brande's chemistry:

Port,	-	-	-	25. 83 to 19. 00
Average,	-	-	-	22. 96
Madeira, -	-	-	-	24. 42 to 19. 24
Average,	-	-	-	22. 27
Sherry, average,	-	-	-	19. 17
Teneriffe,	-	-	-	19. 79
Lachryma Christi,	-	-	-	19. 70
Constantia,	-	-	-	19. 75
Lisbon,	-	-	-	18. 94
Malaga,	-	-	-	18. 94
Cape Muschat,	-	-	-	18. 25
Ditto Madeira, average,	-	-	-	20. 51
White Hermitage,	-	-	-	17. 43
Claret, average,	-	-	-	15. 10
Malmsey Madeira,	-	-	-	16. 40
Sauterne,	-	-	-	14. 22
Burgundy, average,	-	-	-	14. 57
Hock,	-	-	-	14. 37
Ditto (old in cask),	-	-	-	8. 88
Tent,	-	-	-	13. 30
Champaign (still),	-	-	-	13. 80
Ditto (sparkling)	-	-	-	12. 80
Vin de Grave,	-	-	-	13. 94
Frontignac,	-	-	-	12. 79
Tokay,	-	-	-	9. 88
Cider, from	-	-	-	5. 21 to 9. 87
Perry, average,	-	-	-	7. 26
Mead,	-	-	-	7. 32.

Brown Stout,	-	-	-	-	6. 80
London Porter, (average)	-	-	-	-	4. 20
Brandy,	-	-	-	-	53. 39
Rum,	-	-	-	-	53. 68
Gin,	-	-	-	-	51. 60
Scotch Whiskey,	-	-	-	-	54. 32
Irish do.	-	-	-	-	53. 90

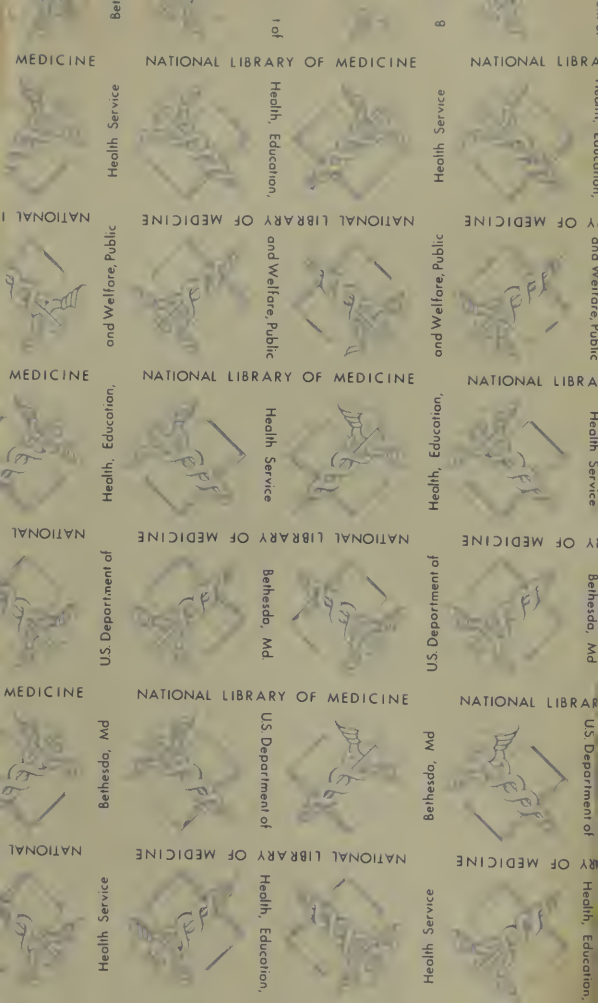
Nutritive Matter in Vegetable Substances.

The following table, drawn up by Sir H. Davy, exhibits the relative proportions of soluble and of nutritive matter contained in 1000 parts of different vegetable substances.

Wheat, average	-	-	-	-	950
Norfolk Barley,	-	-	-	-	920
Oats from Scotland,	-	-	-	-	748
Rye from Yorkshire,	-	-	-	-	792
Common Bean,	-	-	-	-	570
Dry Peas,	-	-	-	-	57'
Potatoes,	-	-	-	from 200 to 260	
Red Beet,	-	-	-	-	148
White do.	-	-	-	-	136
Parsnip,	-	-	-	-	99
Carrots,	-	-	-	-	98
Common Turnips,	-	-	-	-	42
Swedish, do.	-	-	-	-	64
Cabbage,	-	-	-	-	73

* Late French chemists have ascertained that a bean, raised in France, exceeds in nutrition even wheat. The result of their experiments is not at hand or it would be noticed.

The nutritive matter contained in maize or Indian corn, a grain so highly valued in this country, is not estimated by the English chemists, by reason, it is presumed, of their climate not permitting its cultivation.





MAR 3 1965

NATIONAL LIBRARY OF MEDICINE



NLM 04142463 7